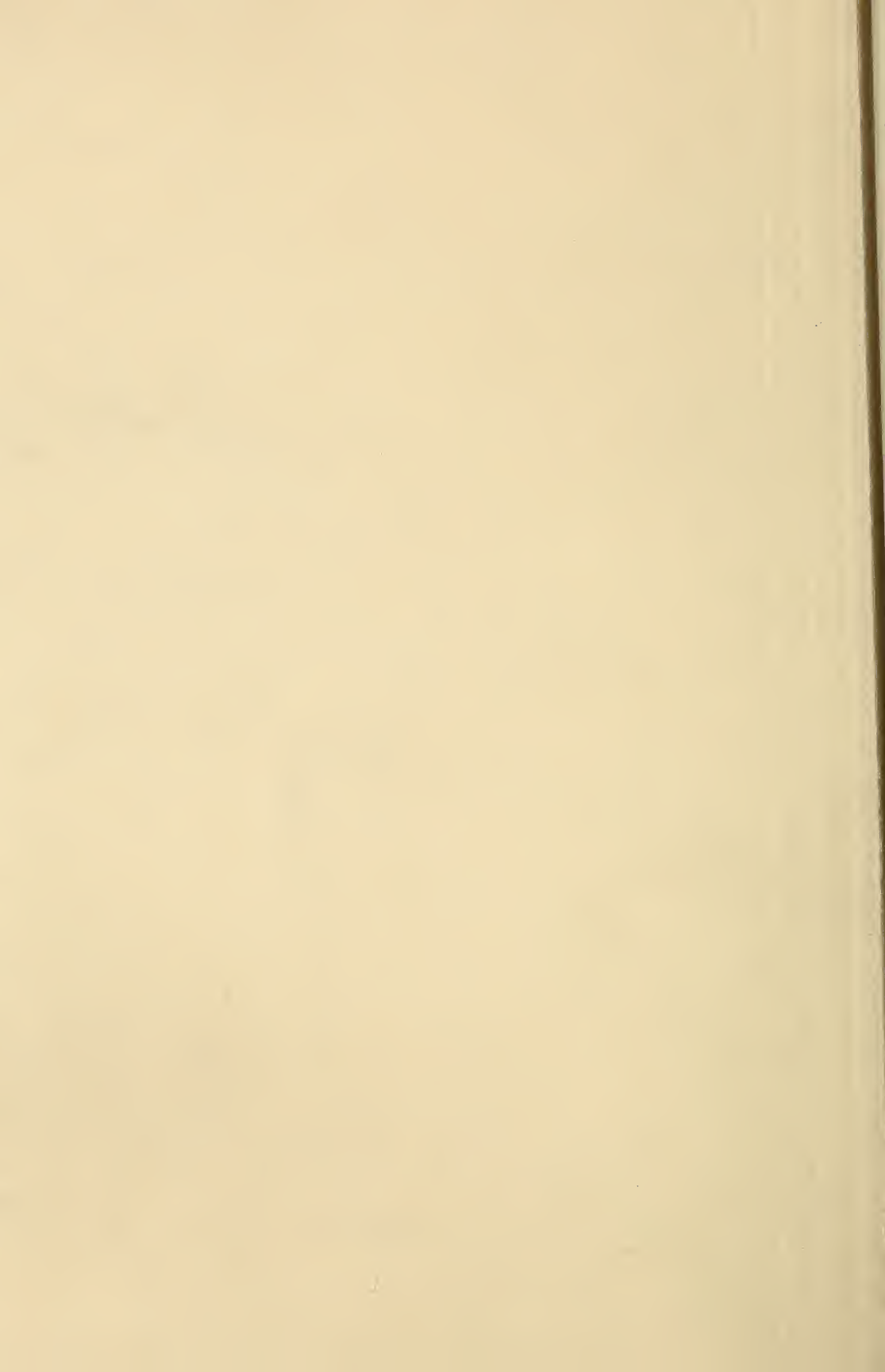


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GLEANINGS

A JOURNAL
DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS.

BEE CULTURE

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No. 8.

STRAY STRAWS

FROM DR. C. C. MILLER.

MY BEES were taken out of cellar in fine shape March 30. Only 2 dead out of 157; but a lot more may die before June.

THE BRITISH B. K. A. has done the nice thing by electing Prof. Cook an honorary member in place of the late Rev. L. L. Langstroth.

TOTAL SUGAR consumed in U. S. in '95, 3,899,488,000 lbs.—just about 60 lbs. for every man, woman, and child. Wouldn't the nation be stronger if one pound out of ten had been honey?

NOT LONG AGO the *American Bee Journal* had an adv't of a man seeking a wife. *Centralblatt* beats that with the adv't of a dowerless maiden of 20 desiring a husband. York's man might open negotiations with the dowerless maiden.

BROOD FRAMES filled with foundation usually have a space of $\frac{1}{4}$ -inch left at the sides. Is that desirable when the frames are wired? I have a lot of combs built on foundation that touched the end-bars, and it seems to work perfectly.

THE METRIC SYSTEM stands a chance, just now, of becoming compulsory in 1897. What a fine thing it would be to have our complicated system of weights and measures replaced by the simple decimal system that we use in counting money! I'd like to live in 1897.

METAL BEADS on nails for spacers, as talked about by "the old Scotchman," p. 264, are among the things I've thought about, but I don't know where to get the right kind of beads. But I'd like best a nail with the right kind of a head.

THE WELLS SYSTEM of working two queens in one hive is not suited to novices in bee-keeping, says the *British Bee Journal*. Richard Brown, in that journal, says the system is not intended for strong colonies, but two weak colonies must be worked together.

VERY LIKELY Wm. G. Hewes is right in thinking "black combs darken the honey;" but I think he's too sweeping in saying "we all know" it. I think many insist that black combs don't affect the color of the honey, and there's been a good bit of discussion about it lately in *British Bee Journal*.

THERE'S A COG slipped somewhere on page 252, in C. H. Clayton's \$11.25 for 19 combs at 75 cts. each. Guess he or the printer got it 19 instead of 15. But, say! isn't 75 cts. apiece rather steep for drawn combs, especially with bees only 50 cents a pound at the beginning of the season? If I could trade 2 combs for 3 pounds of bees, I'd skin every last comb out of my hives. [That's the way it was written.—Ed.]

A REVERSIBLE FRAME is given in *Revue Internationale*. The top-bar is no longer than the frame. Into each of the four corners is screwed a common right-angled hook. For the part intended to be uppermost, the hooks at each end are turned outward to support the frame, while the lower hooks are turned inward so as to be entirely out of the way. [This idea is illustrated in the back volumes of *GLEANINGS*.—Ed.]

LOW RAILROAD RATES are of first importance for a good attendance at the North American, and I've always said the only way was to have it where and when low rates were already secured for some other purpose. By all means try following the Grand Army, and some time it will go to Nebraska. [Yes, I'd like to have it follow the Grand Army this year; but the Nebraska bee-keepers "kick." Too bad they won't give in. Perhaps they will, though, yet.—Ed.]

NO HONEY IN ROSES.—Roses do not secrete honey in their flowers. Insects are simply attracted by the perfume and rich colors, and by the abundant supply of pollen, which serves as food.—*Los Angeles Express*. Wonder if there isn't some mistake about that. I do know that in times of severe scarcity I've had many a rose ruined by the bees tearing the buds open, and that would hardly be for pollen. But most years the bees never touch the cultivated roses.

[Dr. Miller is a great lover of roses. He grows lots of them around his place, and in all probability he is nearer the truth than the *Express*.—ED.]

MR. EDITOR, on p. 261 you grant the addition of a chemical to prevent granulation would not be adulteration if the chemical were expensive and not much of it used. Don't you grant any thing of the kind. The addition of a pound of chemical at \$100 a pound to a ton of honey would be adulteration, providing that addition *injures the quality of the honey*. But then, there isn't much danger of that sort of adulteration. [Yes, if it injures the honey; but, as you intimate, the chemical probably will never be found.—ED.]

CANADA is crowing over California anent adulteration laws. The California law prohibits any thing but "the natural product of the bee," and *Canadian Bee Journal* says that legalizes glucose honey or any thing the bees will store. The Canadian law (in prospect) prohibits any thing produced from "substances other than those which bees gather from natural sources." Skylark hurrahs for Canada. I confess I don't see such an immense chasm between "the natural product of the bee" and what they "gather from natural sources."

WHOLE-WHEAT FLOUR is a grand thing, but altogether too expensive. Costs 4 cts. a pound in Marengo. Chance for some philanthropic work "along this line," Bro. Root. [Why, bless your heart, doctor, the philanthropic work is already done—see page 270 of our last issue. You can surely buy wheat in Marengo at not much more than a cent a pound; then with a hand-mill of almost any kind you can make big wages by grinding your own whole-wheat flour. A large-sized hand coffee-mill, such as you see at almost any grocery, makes this flour; and some of the friends tell us that the Wilson bone-mills do tiptop. I suppose you have that wind-mill by this time that I so strongly insisted upon, on the summit of that hill, and that should do the grinding. If you do not like that way, use the brake-stock you mentioned in our last issue.—A. I. R.]

I CALL THE EDITOR to order. On p. 268 he says clover or linden extracted ought to bring 8 to 9 cts. The highest quotations, page 245, leaving out California, make an average of only 7 cts.; and when commission, etc., are counted out, 5 will be a good deal nearer the mark than 8, to compare with his 4-cent syrup. [You seem to assume that I had reference to *extracted* honey; but if you will refer to page 69 again you will see that I said only "honey." However, that matters little, for I meant *extracted*; but the argument I used would have been more forcible had I used the word *comb*; and then the margin of profit between syrup at 4 cts. and *comb* honey at 12 and 16 cts. would be consider-

ably greater. While my price—8 to 9 cents—is perhaps a cent too high, yours is too low. You figure the current price as quoted in our last issue. I was figuring on the usual current price that holds just as the first clover and basswood honey is put on the market; because, by the Boardman plan, one can get honey on to the market a week sooner than by the old plan; and the first honey on the old market always brings a considerably higher price than that which comes a week or two later. And another thing, you know I have been an advocate of selling honey around home, and thus doing away with the great loss in commission, freight, leakage, etc. While it costs something to sell at home, higher prices may usually be obtained for all that. Taking it all in all, I do not think I was so very far out. In fact, I did not make my point nearly as strong as I might have done if I had referred to the bee-keeper's profit between syrup at 4 cts. and *comb* honey at 12.—ED.]

WATER-WHITE HONEY is talked about, even in the columns of market quotations; but, really, is there such a thing as water-white honey? Better be honest and call things by their right names. ["Water white" is a common form of exaggeration, so common in the English language. For instance, when a horse dashes by, it is "going like lightning." When it is raining pretty hard, "it pours;" when a room is a little colder than 70° F., "it is freezing;" and when honey is lighter in color than the average basswood or clover of the East, the Californians, naturally enough, say it is "water white." They have used this term to us a good many times, but we have never considered it literal. Whenever they have thus designated their sage we knew they meant best quality light honey, and no confusion ever resulted, so far as we were concerned. But nevertheless the term is slightly misleading, and *might* sometimes cause dissatisfaction with certain buyers. Granting that it is defective, what other term would you use? If you simply say "white," or "light," it would mean that the honey was no lighter than clover or basswood, which is not true. Here in the East, in speaking of clover and basswood honeys, we define them as white honeys, when, in fact, we do not strictly mean that. We speak of the white man, the yellow man, the red man. The adjectives are not strictly accurate, and yet they are accepted and properly understood. Commission merchants and honey-buyers all over the country define clover and basswood as "white." No one, however, thinks this is an exaggeration; and the term "water white" for sage honey, which is still whiter than clover, is not more of an exaggeration, surely. The fact of the matter is, the terms "water white" and "white" are accepted, and it would be a hard matter to change, even if they *are* wrong.—ED.]



ON THE WAR PATH, IN GRIEF AND TEARS.



O Hasty, Hasty! when I first took you in charge I thought you would turn out a better boy; but you have altogether disappointed my expectations and wrecked all my hopes. I see by *Review*, page 57, that you still talk about the adulteration business in Los Angeles, Cal.

First, it was "inside views and exact facts." But now, taking your own account of friend Dayton's explanation, he admits that "his language was rather loose—the printer did not punctuate right; his mind was rather dwelling on bad years when there was no honey in the mountains—flying rumors that he was willing to indorse to the extent of publishing them." This is as fair and complete a backdown as we want. But friend Hasty is still not satisfied. He *must* have adulteration in Los Angeles. Glucose is only $2\frac{1}{2}$ cents per pound there, so it is only $1\frac{1}{2}$ cents in Richards, Ohio. Does that prove that friend Hasty, or anybody else, is turning out thousands of cases of adulterated honey in that place?

APIS DORSATA.

On page 84 of *Progressive Bee-keeper* is an open letter from the Ontario County Bee-keepers' Association, to the fraternity in the United States, the pith of which is as follows:

Fellow Bee-keepers:—We have prepared for circulation a petition asking the Secretary of Agriculture of the United States to take steps to secure and introduce *Apis dorsata*, the giant bee of India, into this country. It is a duty that the government owes and is willing to render our industry. (See Report of Secretary of Agriculture, 1893, page 25.)

Owing to the rapid disappearance of the bumble-bee, the introduction of these bees will soon be a necessity in the successful growing of red clover for seed, if for no other purpose.

Now, Mr. Editor, I don't always kick; in fact, I don't kick at all unless I am mad. I hate to see people who are always picking flaws in the conduct and the writings of others. We are all poor weak mortals, and liable to commit mistakes—that is, the most of us—particularly you fellows on the eastern side of the Rocky Mountains. But I don't kick now, because this move pleases me. This very thing should have been done years ago. The government has been standing ready to help us while we have been waiting and watching for *Apis dorsata* to fly over here of her own accord. It only needs that the petitions be poured in by the hundreds to get all the assistance we want. It is likely that the bee-keepers will be consulted as to the proper person to send on this important mission. He should be a man of great scientific attain-

ments, of unlimited knowledge, of splendid administrative and executive abilities—quick to see and prompt to act, with a perseverance that never tires, and is satisfied only with complete success. He should have also a munificent salary. This is the only way to get the best and ablest talent. I could be ready to start by the first of July next.

We have here in California, at the present writing, a first-class chance for a poor honey season. That is the prospect now. It is not yet too late for rain, but it is almost too late for the downpour that we need to make a good honey crop. Now, don't you fellows jump up and clap your hands. It is not too late, and it is not impossible, for several good rains to fall which would amount to an awful big one. Don't get out your banners and go on a torch-light procession for six weeks yet. We have the climate here—have it in such quantities that we can retail it by the single yard or sell it by the thousand pounds; and don't you suppose we can have a little rain?

The *American Bee-keeper*, page 64, has this editorial:

It is a noticeable fact that there have been no new bee-papers started this year. This has not happened before in several years, and is an indication of "hard times" among bee-keepers.

Not so fast, Mr. Editor. How do you like the following?

Born, in the city of Los Angeles, Cal., January 1, 1896, the *Pacific Bee Journal*. The child is bright, strong, healthy, wide-awake, and full of fun. He can knock the stuffin' out of any thing of his size and age in the United States.

I see that Thos. G. Newman and wife are coming to San Diego to reside, as I understand it, permanently. Mr. Newman will be very cordially received and heartily welcomed by the bee-keepers of California.

How is it that, as soon as any of you fellows get smart, and become a blessing and a joy to society, you at once emigrate and strike for the Pacific shore? Here are Skylark, Prof. Cook, Rambler, and Newman—four stars of the first magnitude—visible only on the Pacific slope.



HEAT AND HONEY.

By Hon. R. L. Taylor.

HONEY OF DIFFERENT SOURCES; HONEY AND WAX TOGETHER; EFFECT OF THE RECEPTACLE; INTERESTING AND VALUABLE EXPERIMENTS.

Editor Gleanings:—The two samples of candied extracted honey, viz., one from alfalfa and one from great willow-herb, were duly received. Last week I made as careful a trial as I could to determine the effect of heat upon them, using also a sample of my own in connection

with them. This sample of my own was, I judge, mostly all basswood honey, and was in comb cut from partly filled sections of 1894. The comb was, of course, clean, and as white as comb made from foundation usually is. If there was any admixture of other honey with that in the comb it was, in all probability, that from white and alsike clovers. This trial was made with the honey in tin vessels, while it will be remembered that, in the former test, an earthen vessel was used for holding the honey.

The results of the present experiment *seem* to indicate the three facts; viz., that honeys from different sources are differently affected by heat, owing, probably, to the difference in the character and amount of the acids they contain; that honey heated with the wax of virgin comb containing it is not affected thereby, and that the composition of the vessel holding the honey may have something to do with hastening or retarding injury; for instance, in an earthen vessel the heated particles of honey in contact with the side of the vessel may not move so readily to change places with those of a lower temperature as in a burnished metal vessel, or it may be that the heat is conveyed more intensely by earthenware. The evidence on these points will appear from the results of the experiment, which I now give.

Alfalfa honey is peculiar, if the sample you sent is a fair one, in that it does not readily become limpid on being melted. On that account I thought when it reached a temperature of 145° that it had not dissolved, in which notion I was probably mistaken, for it was still cloudy at 180°. At 194° it had become tolerably clear, but very much discolored, so that it was of an amber color, almost brown. I could not judge from the present sample, but I suppose its natural color is about like that of honey from the great willow-herb, almost water-white. At 145° the color of the honey from the latter plant was but slightly removed from that of water, while that of the honey from the comb had a golden tinge. Of both these, samples were taken at 168, 180, and 194°. From 145 to 168°, and from 168 to 180°, the change in both cases was equal and slight, being barely discernible; but from 180 to 194° the change was very marked in the willow-herb sample, while it was comparatively slight in the other, so at this highest temperature the color of the former was very slightly darker than that of the latter, though it lacked much of being as dark as that of the alfalfa honey, being golden rather than brown.

In the case of the comb sample, the wax was retained in the melting-vessel throughout the experiment; nevertheless, the change in color was decidedly less rapid than in that used in my former experiment; and it is upon this fact that I base my opinion that the character of the vessel used has something to do with the

change in color and flavor. In these two samples at 180°, the change in taste was slightly hardly distinguishable; but at 194° it was quite evident.

The time used in the process was about six hours. I suspect a more rapid heating after 145° is reached might give a more favorable result. Comments are in order.

I used the word "harrowed" (see your remark, page 227) altogether impersonally, and with reference to mistakes, not "flings." Don't mistake me: I have a lively appreciation of your comments and criticisms, favorable or otherwise—only let not the fact that I criticise in return be taken as a proof that I am sore or harbor hard feelings.

In his *Straw*, page 204, Dr. Miller intimates that there has been a scarcity of fish at our house; but since he therein fails to distinguish between "almost" and "altogether," and between "couldn't be" and isn't, and since he differs so widely from you and me in his count of surplus-preferences, will you please convey to him my commiseration on account of the fact that he does not live up here near the lake, where we always have fish in plenty? Fight fair, brethren.

R. L. TAYLOR.

Lapeer, Mich., March 26.

[At Mr. Taylor's request I sent him a couple of samples of honey. The willow-herb is the whitest honey we know of, and it comes as near being literally "water white" as any honey in the world. This honey I thought would be especially favorable for testing the effect of heat on the color.

The other sample—the alfalfa—is a very delicately *flavored* honey, and the least change, I think, would be detected by the taste.

The results secured are very gratifying. As I understand it, they neither disprove Mr. Taylor's former honey heating experiments nor the statement I made, to the effect that clover honey raised to a temperature of 180 degrees, and sealed while hot to prevent candying, is injured in flavor; but it is evident that the 180 mark is about the limit. If Mr. Taylor is right (and I presume he is), the natural inference is that a thermometer should always be used in connection with the heating of honey (to prevent candying), so as to be sure not to raise the temperature above 180 degrees; for beyond that point the value of the honey may be affected adversely by a cent or two a pound.—ED.]

CULTIVATING SWEET CLOVER.

WHERE IT WILL AND WILL NOT GROW; A REASONABLE ARTICLE.

By H. R. Boardman.

Yes, I am sure I can give a few hints in regard to the cultivation of sweet clover, that will be valuable to those who propose to sow it. I have studied its habits for a good many years. Almost every one falls into the fatal mistake of supposing it will catch and grow anywhere, with no further trouble than scattering a few seeds. The requirements for success are, a thoroughly underdrained or deeply drained

soil. It will not grow with its feet in the water. Like the alfalfa, to which it is nearly related, it will not succeed in a soil that is water-soaked during the winter, and this is about the only condition under which it will not thrive.

It will grow and thrive on any and every kind of soil, and it is not much matter how poor it is; but it must be perfectly drained to a considerable depth. It is abundant in my locality, and I will tell you where it grows—along the roadsides, and especially where the road has been piked up, leaving deep ditches at the side; on the banks of large ditches along railroad embankments, and along the streams. The Huron and Vermillion Rivers have great quantities growing along their banks, and on the bottom lands. You will observe these localities all furnish a good depth of well-drained soil. It is the important requirement, in my estimation, for its success. Do not try to raise it on soil that has not this condition, or you will certainly meet with disappointment. Humor its preference and you will be rewarded with success.

During last summer I made several trips along the Vermillion River, in pursuit of my favorite amusement—trolling for black bass. I kept one eye on the white patches of sweet clover swarming with bees, that I found in great abundance for a distance of more than 20 miles. "Oh!" I said, "if I could raise such crops of sweet clover it would be worth money for the honey alone." But I have no land that is so perfectly adapted to it as that along the river. But I remembered this crop when the seed was ripe, and availed myself of the privilege of harvesting some of it, which the owners of the land granted freely. Hundreds of bushels of this seed each year falls off, and is washed down the river, to seed and reseed the banks and bottom lands clear to the lake, and undoubtedly along the lake shore for no one can tell how far.

I made up my mind that this big crop had come to stay. I have sown sweet clover several times on this kind of land, upon which it will not grow, and I shall not waste any more time in that way. I think I give good advice to others when I say, "Don't sow it unless your soil is adapted to it."

For field culture I would sow sufficient seed to get a good liberal catch, and not sow more land than I could and do this. Half a bushel to the acre of the unhulled seed is not too much. The spring of the year I think the best time to sow it. It will make a good catch on winter wheat or rye ground, but I think I should prefer to harrow or cultivate it in deep with a light crop of oats.

I will not take time to try to show the value of this plant. I am sure it is being rapidly recognized.

East Townsend, O.

CO-OPERATION IN THE HOME MARKET, VS. PEDDLING.

PEDDLING NOT DISREPUTABLE BUT DISAGREEABLE; FIGHTING COMBINES WITH COMBINES.

By F. L. Thompson.

On reading the peddling articles in March 15th GLEANINGS, with the one on page 137, also some replies to Query 7, in the *American Bee Journal*,

A feeling of sadness came o'er me
That my soul could not resist.

Is it possible that any man or collection of men really believes that, to agitate peddling, will make the skies grow bright again? Of course, it's a good thing. But think of the tons of energy scattered if we lean very hard on individual peddling; and then think of what might be done by merely applying the same dead weight to the home market in a co-operative way. The most emphatic advocate of correct peddling knows very well that, if the subject were agitated *ad nauseam* in the newspapers, with bushels of articles as full of hard sense as a brickbat is of grit, that only a small proportion of bee-keepers would follow their instruction, or have any inclination to. Let's think of what may be done, instead of what ought to be but won't be. The competition of cheap honey from those bee-keepers who won't peddle will remain, and flourish with unabated vigor, unless we look elsewhere for a remedy.

Peddling is not "disreputable." That isn't it. But it is intensely disagreeable to perhaps nine-tenths of ordinary mortals who have not a barrel of tact on tap. Most men like to have some sort of pride in their work. If they can not, they prefer to forego the additional profit, or do something else—and *they have a right to do so*. That horn-blowing, chewing the rag, etc., is all right. I have nothing against it; only if I am to be called a fool for not selling my honey that way, I vigorously protest. I believe that, when a bee-keeper has worked faithfully to secure all the honey the bees can give, and put it up in good shape, he is entitled to the best market price for it, and that for a few smart fellows with the gift of gab to haul him over the coals for not being as flip as they are is not right.

I have tried peddling. It was not a failure. I sold over 500 lbs. of extracted honey that way, mostly in pint packages. Notwithstanding such unbusinesslike methods as believing a woman when she said she didn't want any honey, making no remarks about pet birds, etc., I made fair wages, considering the time I put on it, and could do so again. But I *won't*—you hear me? I might give reasons, and good ones, for my determination; but that is not the point. I simply made up my mind that life was too short to employ it in any other way than in doing my best, and that I clearly was not doing

my best. Why should a man's hands be all thumbs when his other fingers are in healthy condition? I now employ my winters in other ways; and, while a loser financially, perhaps, I am so much a gainer in other ways that there is no comparison. No peddling for me.

Incidentally I might mention that I found selling in ten-pound or gallon buckets was more profitable than fussing with small packages, and that the vessel should always go with the honey.

Real peddlers are few in number. Is it not possible, not in theory, but really, to utilize peddling abilities for the good of us all? In Denver there are about five salesmen of honey. One is enough. Mrs. Heater, in the *American Bee Journal*, says producers should counsel together instead of underselling each other. That is the way to talk. But only four out of the twenty-four counselors talk that way. What is the matter? I think I know. It is vagueness. People haven't thought enough, or, rather, have thought too vastly to start with. First of all, somebody suggests a National Honey Exchange in Chicago. Of course, the wisacres will shake their heads. Still, it is all right, and it may come soon, for all I know; but co-operation, like charity, begins at home. Here we have been talking all these years about developing a home market; and when co-operation is suggested, the first thing we do is to apply it somewhere else. If only three or four honey-producers in each State get together, employing one salesman for their own State, the objects to be achieved are those which every one sees *can* be achieved; and don't you suppose it will spread? There is no need of doing any thing wonderful to begin with.

In this connection a suggestion in one of Mr. Aikin's articles ought to be seriously considered. The salesman of such a company would stand some show of introducing the original cheap tin package of which Mr. Aikin speaks; especially if such a package bore the registered label of a bee-keepers' company, guaranteeing its purity; and if the salesman would also be competent to receive the honey in bulk, and himself put it up, it would be a *uniform*, standard article. If the package were a soldered round can, just like a tomato-can, with directions for liquefying, like those for treating canned peas, etc., the consumer would never see the honey candied. Moreover, the general adoption of this plan would be one of the very best methods of combating adulteration. These suggestions were made by Mr. H. Rauchfuss, at a recent meeting of the Denver Bee-keepers' Association.

One of our bee-keepers (Mr. V. Devinny) said lately, "You can't convince the people, but you can convince the merchant." This is an important point. I am not so sure that individual peddling, even if greatly increased, would

come anywhere near the weighty influence of the accredited salesman of a standard article with grocers only. The consumption of honey in Denver has increased wonderfully in the last six years, simply by the effort of salesmen to supply the grocers; and nothing would prevent such a salesman from also giving away samples to the general public.

Mr. Doolittle says that legislation should be in favor of the producers of wealth, instead of trusts, combines, and monopolies—which at once suggests that the quickest way out is for the producers themselves to form combines. Mr. Demaree, over a year ago, spoke of unions, trusts, combines, and societies as if they were going to be responsible for a cataclysm, and now has nothing further to suggest than individual effort in the home market. Combines and trusts against single-handed honesty are certainly—oh! not to be borne; but just consider what Prof. Cook says of the Citrus Exchange: "The exchange is a powerful organization, and is interested in low freight rates, as the commission men never could be, and is able to secure, not what the traffic will bear, but what is just." I'm waiting for some one to prove it is wrong to fight fire with fire, in this line. Are the "plutocrats" ever going to stop forming combines? No. Then what are you going to do about it? Legislate? But the combines have complete control of law-making—the most important part of that is lobbying and influence.

Mr. Abbott advises "pluck, energy, push, keenness of perception, and a feeling that you are able to take care of yourself without any help from the law or your neighbors, provided you are *let alone*"—a weak body with a mighty voice, in my opinion. With a synonym book and a little reflection, I believe I could beat that. Keenness of perception, hey? Humph! Here am I, after working hard all season, with my money in attractive packages, ringing the door-bell of a city house. The door opens, and I go through my formula. "Is the honey fresh?" (! "Bees make honey only in the summer, and—" I start in to say stammeringly, and bang goes the door. Not until the next day do I happen to think of a form of words that might have arrested that woman's attention, and, ten to one, in the next contingency, forgot to apply it. Yes, keenness of perception is necessary; but for mercy's sake let us use the material at hand in our ranks, not buttonhole each individual, and sing, "Be keen and you will be successful." Now, will Mr. Abbott say that I do not deserve a good price as well as the fellow who works no harder, and *no more intelligently*, come right down to it (I know what ought to be done, if I could only think of it soon enough) than I do?

How would it do to furnish each soldier of an army with a copy of Mr. Abbott's instructions,

thensay, "There, you don't need any officers—go ahead, you'll win the battle"? And, for that matter, of what use are incorporated companies or firms of any kind? "A feeling that you are able to take care of yourself without help." Mr. Doolittle, take courage. Plutocracy will vanish like morning mist if you only become inspired with a certain "feeling."

Arvada, Col., March 21.

SUPPLYING THE HOME MARKET.

HOW TO SELL TO GROCERS.

By F. A. Snell.

I have found it of greater value to sell in my own and adjoining towns than to ship to the large cities. A certain amount of tact must be possessed by the honey-producer to make a good salesman. If one is a good bee-keeper and also a good salesman he is fortunate in that respect. I have tried to keep the grocers of my own town supplied with honey so long as I have had any to sell. It is not so easy to sell where one is not known in other towns. In going to such places I always take along a buggy load. I drive up in front of the groceries and hitch my horse and then call on the grocers, always trying to be as pleasant as I am capable of being. I greet one with a "good-morning," which is pleasantly returned, as a rule. If he is at leisure I make myself and business known, telling him that I have some honey with me which I should be glad to show him. He is generally willing to look at it. I take a crate or case from the buggy and show it to him. The case is neat, glassed on both sides, tight cover, sections clean. The combs are looked over. I show him how nicely it may be handled and wrapped up. The honey pleases him, and he thinks it will his customers, so I am able to sell him two or three cases. Settlement is made. I thank him for his patronage, and ask that, if more is wanted, that I have the chance to supply him.

I then pass to the next dealer. I bid him a good-morning. Perhaps he is busy. I wait until he is at liberty. I then make my errand known, giving my name and residence, and state that I have some honey with me that I should like to have him look at. The case of honey is placed in as good a position as is at hand for inspection. He is pleased with its appearance through the clean bright glass. I remove the cover and take out and show him a few of the boxes. He remarks, "The honey is fine; but as you see"—he shows me a lot of honey in dirty boxes—"I have a good deal on hand." I reason that, while he is waiting to sell this, he might be able to sell quite a lot of the nice honey at a better price, and perhaps lose the sale to those of finer tastes. He decides by not taking my honey, however; that

the other had better go, and that he will not invest in any more just now. I want his trade, and have faith in my honey, so I offer to leave him two cases to sell on commission, as I know he is reliable. He consents. The honey to be paid for when sold.

The third grocer is visited, where I proceed about as before stated. The honey suits him, and he takes only one case, as he is a little afraid he can not sell it so as to make a profit to suit him. I am well suited, as I am confident he will have no trouble, and I have made a start that I hope may prove of value in the future, for I try to please, give good weight, and put the honey in the cases so its outside appearance will not be deceptive, or, in other words, the finest I do not place next to the glass, with that not quite so nice in the middle, or where it will not be so readily seen. If one is so unjust as to try to deceive, he will find later on that he is the one most deceived; and, if a honey-producer, he will find his trade or sales much injured or his customers few.

Milledgeville, Ill.

SELLING HONEY AT LOCAL FAIRS.

THE VALUE OF THE \$1000:REWARD CARD.

By F. W. Humphrey.

□ I have had considerable experience in peddling comb honey and in selling at our local fair. Four years ago I made an exhibit of hives and tools, bees and honey, at our county fair. There was a good deal of talk about "manufactured comb honey," especially when the comb foundation was examined. I tacked up some of A. I. Root's reward cards, and found them a great help in convincing people that my honey was "bees'" honey; but it was weary work to stand there all day and assure people, who thought they knew more about my business than I did, that artificial comb honey was a myth. A motherly old lady stopped at my stand one day and asked the usual question, "Is this manufactured honey or bees' honey?" I replied that it was bees' honey, and that there was no such thing as artificial comb honey. "Oh! but there is, you know, lots of it; they make it by machinery." I saw that she was a hopeless case, and said no more, only asking her to read the "\$1000 reward" card I handed her.

I have sold honey at every fair held on those grounds since, and find that the belief in artificial comb has died out to a great extent—partly, I think, owing to the persistent preaching by myself, and other exhibitors, of the doctrine of pure comb honey.

My sales have increased from a few pounds the first year to several cases at the last fair. Those who buy once come again. I have sold 1000 pounds in this vicinity since the honey-flow

stopped last fall, the largest sale being six 12-lb. cases. The rest has been peddled or sold to the local grocery trade in 12-lb cases.

The most profitable trade has been in unfinished sections, two for 25 cts. These have gone like hot cakes on a cold morning.

Peddling honey, like other business, has its unpleasant side; but when people find that you are selling good honey at a fair price they will buy of you much sooner than from a grocery.

Some of my best customers are from the city (Bridgeport). They drive out to the apiary and buy several pounds at a time.

The fraud-killer of GLEANINGS should get after the *Youth's Companion*. They are advertising Electropoise.

Oronoque, Ct., Mar. 24.

VEXATIONS OF THE MIDDLEMAN.

TROUBLES OF THE COMMISSION MEN, FROM A COMMISSION MAN'S STANDPOINT.

By C. F. Muth.

There is nothing more natural for farmers, bee-keepers, and producers in general, than to endeavor to get the top of the market for their products. As a rule, producers work hard; and the extremely low prices prevailing during the late years have caused sore disappointments to all, but not to producers only. Good prices, a good demand, and satisfactory margins, go generally together, and the reverse is the case in adverse times. We are always ready to take the producer's part, for the very reason that most of us are, more or less, in the same boat. But self-interest often makes us judge others harshly and unjustly. To prove this I will cite two cases in my experience of last winter, even if some of our friends will take sides against the middleman.

Comb honey was in very good demand with us last fall. We sold considerable. The honey crop having been an entire failure in Southern Ohio, Kentucky, and Indiana, we received our supplies from Northern Ohio, Michigan, Pennsylvania, and New York. Quality was rather indifferent; but supplies were insufficient. We bid on a number of carloads of western honey, and received two carloads from California. We bought "choice white" only, but did not object to a small portion of each car being "No. 2." Our prices for the first car were 12 cts. per lb. for "choice white," and 10 cts. for "No. 2," f. o. b. Cincinnati. We advanced \$850, and freight was about \$650, and we agreed to remit the balance in 30 days after the arrival of the car.

A rough day on the farm keeps me in the house, and gives me a chance to write this article. If I don't give the exact figure in every instance you will have to make due allowance for my quoting from memory.

The car had been loaded poorly; vacant spaces had been left, which had given the cases a chance to slide and bump together during their journey. It required steady work for our own folks, and two extra men, for a week or more, to overhaul and repack the honey. All broken combs were assigned to the straining-bucket, as we could do nothing else than make strained honey out of it. Our friend was credited 5 cts. per lb. for his broken combs, which was 2 cts. more than we should offer were we to buy any. There were 300 to 450 cases of pretty nice honey in the car, not choice white, but a good salable article, while all the rest were of indifferent quality. We found, in the same cases, fair white and dark combs as well as very unsightly combs of different colors; old combs refilled, and many combs with granulated honey. I told my friend that about half of his honey should never have been shipped from California to Cincinnati. He is, no doubt, a good man, as his near relatives, who live near our city, are good people; but he had not personally superintended the packing of his cases, and he had not been careful in loading his car. I paid him 5, 7, 8 (or 10), and 12 cts. per lb. respectively, for his honey. My California friend could not believe my story to be true until his brothers called on us and were convinced of the facts.

The second car contained about 34,000 lbs. net of comb honey. We had agreed to pay 10 cts. for "choice white," and 8 cts. for No. 2, f. o. b. California (San Francisco, I believe). We advanced \$2600, and paid freight, \$475. All arrived in the best of order—not a comb broken; but, oh my! the quality—all yellow! His "choice white" was not even No. 3. The front rows, behind the glass fronts, looked pretty nice. They look nice yet, for only about a third of it is sold; but behind the front rows there is any kind of honey. We had shipped, before we were posted, a number of small lots, say 25 cases each, more or less, to Louisville, Indianapolis, Terre Haute, Fort Wayne, Toledo, and other places. All were returned to us excepting the lot from Louisville. A reduction of 1½ cts. per lb. induced the latter party to keep it. It seems that this honey had been put up to cheat. Since we are posted, we overhaul it all, and do the best we can with it, throwing the bad combs into the straining-buckets. According to the original statement, we owe this party about \$800 yet, which we refuse to pay. We so stated to him, adding that we are sorry that it was not \$1500 instead of \$800, as we should certainly refuse to pay the larger sum, knowing that it would not cover our loss. I told him, furthermore, to send a friend to satisfy him of our statement's being correct, and that we would pay his fare both ways from any station this side of the Rockies if he should find my statement not true. That

was several months ago, but we have heard nothing of him so far. The only excuse I have for this shipper is that he, perhaps, had bought the honey without having seen the contents of the cases.

You see, Bro. Root, this material loss is not the only one sustained by the dealer. We were deprived also of our usual trade of the season. We might have disposed of four or five carloads of honey since October had we not been deceived by shipments the like of which we had never bought; while now we must worry along, and shall consign to the rendering-tank about half a carload of comb honey, by the time that fly-time arrives, and then dispose of it at about half the price per pound we had paid for it. So, let us do justice, even to a dealer.

Cincinnati, O., April 4.

"OIL-CAN FRAUDS" IN CALIFORNIA.

HOW TO RENDER SECOND-HAND SQUARE CANS,
IN WHICH OIL HAS BEEN SHIPPED, FIT
FOR HONEY.

By Oil Can.

Mr. Editor:—On page 220 of GLEANINGS for March 15 I find an item entitled "Coal-oil Can Frauds," copied from the *American Bee Journal*, which strikes me very forcibly, and so I should like to ask a few questions for information. 1. What do new cans cost in the East? 2. Is the *American Bee Journal* interested in a can-factory? 3. Is not a good bright coal-oil can as good as any if thoroughly cleaned and deodorized? I think we must use coal-oil cans in this part of California, as long as we can get them, while new cans cost 29½ cts. apiece. The strongest argument in favor of new cans is that they do not have to be cleaned. Some men are slovenly about any thing they do, while others don't care so long as they can get their goods off their hands. This class should suffer, and not those who do their work thoroughly. In this warm climate it is an easy matter to make a coal-oil can as sweet as a rose. Perhaps you will not believe this unless I give the recipe for cleaning the can and removing the odor. It is this: Keep the cans prepared some two or three weeks ahead of the time they will be needed. To clean, first take off the oil-faucet; punch a small hole in one corner of the can; drain out all the oil that will run; expose in the sun for a few days the cans thus drained, then use hot water and gold-dust washing-powder thoroughly. Follow this by rinsing till clean, and again place in the hot sun. In a few days it will be impossible to perceive the scent of oil in them. Cans must be left open while taking their sun-bath, and the open end up, to give the evaporating water a chance to escape.

We need some cheaper method than we now have for putting up our extracted honey; but

what shall it be? We have no honey-barrels on this coast—not to my knowledge, at least; and even if we had, they would not hold honey in this climate. Will some brother bee-keeper please arise and give us a few remarks "for the good of the order"?
Tulare, Cal.

[Mr. York is in no way interested in the sale of square cans; in fact, I do not believe he even knows what the cans can be bought for. It is true, we sell square cans; but the Californians generally buy direct of the factory. I presume his experience is a good deal like ours—that we have run across a good many instances in our correspondence where otherwise first-class California honey has been ruined, simply because the Coast bee-keepers put it into cans that had been used for oil. In some instances they made an effort to clean the oil out; but nevertheless the honey was tainted. California honey has been getting a bad reputation in some quarters, just because of this carelessness (or perhaps we might call it slipshodness) on the part of a few who either ought to quit the business or else use new cans, if they can not or will not succeed in making their old coal-oil cans clean and sweet.

It is true, that second-hand oil-cans may be bought cheaply; but when we come to figure the fuss of cleaning them up, and the risk of not getting them clean, I am very much of the opinion that they will not be found any cheaper than new cans, especially when bought in car lots by bee-keepers clubbing together. But now since the Exchange has come into existence, every member of it can buy at carload rates.

But there is one thing that you evidently do not count on; and that is, that dealers here are prejudiced against any California honey put up in *old oil-cans*, or old cans of any sort. We will suppose that they have been thoroughly cleaned, as you explain: but no amount of talk will convince these dealers, or some of them at least, that the honey is not affected. They regard the old cans with suspicion. On the other hand, if the bee-keeper will pay just a little more for *new* cans, the dealer will be willing to give him a good deal more for the honey there is in them.

But I am glad to get your ideas as to how to clean old cans; and if bee-keepers must use them—that is, can't get the new cans at the right figures—let them use the old ones, but follow implicitly your directions. I have no doubt that *you* can make the cans clean and sweet; but I am a little afraid that some bee-keepers will make a bungle of it. Let a few cans of this oily honey get in with a lot of good honey, and the whole will be condemned. Dealers will, on the slightest pretext, knock the price down, and California bee-keepers can not afford to take any chances.—Ed.]

J. W. E., S. C.—It doesn't pay to keep bees in a greenhouse, so far as the bees are concerned. Years ago we tried the experiment most thoroughly. The bees learned after a fashion to go back and forth to the hive, but many were lost in bumping their heads against the glass, for the conditions in a greenhouse are so unnatural. Bees are often kept in greenhouses for the sake of fertilizing blossoms, and in this case they prove of great value. The loss of bees is of small importance compared with the proper fertilization of blossoms; especially where valuable flowering pot-plants are grown. Where the bees have all died off, another colony is put in.

A LITTLE CALIFORNIA BEE BOTANY.

AN INTERESTING DESCRIPTION OF SOME IMPORTANT HONEY-PRODUCING FLOWERS.

By A. Norton.

Several California honey-producing plants of considerable importance are either entirely omitted or but merely mentioned in Prof. Cook's Guide, which has, however, given quite a com-

are among the early bloomers. The typical species of this genus, *Ceanothus thyrsiflorus*, or true California lilac, is perhaps the most beautiful of all. It is a tall shrub or small tree from 6 to 15 feet high, with a graceful habit of branching, thick, oblong leaves about 1 to 1½ inches long, which are very glossy and shining above, and, in February and March, thickly sprinkled with clusters of beautiful bright-blue

flowers. The shape and habit of the clusters are much that of the common lilac of Eastern dooryards; but the small flowers are entirely unlike those of the cultivated shrub, as is every other aspect and relationship of the *ceanothus*. It belongs to the buckthorn family. The flowers are very fragrant, varying in this respect with the species, and bees work on it very freely. The anthers, bearing much pollen, are borne on long slender filaments that protrude from between the curved back petals of the little florets; and the bees gather light-yellow pollen therefrom. Between 20 and 30 species are found on the Pacific slope. The species just described ranges from Monterey to Humboldt County. It is replaced in the Sierra Nevada Mountain region by two similar species, one with white and one with blue flowers. Other species are much more scrubby in growth, with smaller leaves; and they help largely to make up those peculiar impenetrable chaparral thickets (mixed with chamiso brush and chaparral oak) which are so characteristic of the California Coast Range.

Ceanothus americana

is the "Jersey Tea" of Revolutionary fame found in New Jersey, etc.; and *C. ovalis*, found among dry rocky places from Vermont to Wisconsin, are the only eastern representatives.

The California species are mostly found from the central portion of the State to Oregon



- a, a, a = Sepals of strongly incurved Calyx.
 b, b, b = Slender Petals, deep ladle-shaped, spreading between Sepals.
 c, c, c = " " Stamens, also coming out from between Sepals.
 d, d, d = Three-lobed style, and Little slender, sepals, stamens, in fact whole flower a delicate blue, excepting only the yellow anthers, or pollen-sacks.

prehensive and very accurate account of the honey-flora of this State. Many of these plants are already in full bloom (Feb. 25), and have been blooming for three weeks; and they are furnishing plenty of business for the bees. The many species of California lilac (*Ceanothus*)

Washington, and Nevada. But a few species range southward, and I have found them among the Chaparral Mountains of Ventura County and elsewhere.

C. spinosus, the next to the most prominent species, occurs from Santa Barbara to Los Angeles, and is known by the local name of "red-wood"—not the timber tree redwood—on account of its reaching the height of a small tree and producing a passably serviceable red-colored wood, which, however, is not much used. Like all the other species it has clusters of beautiful fragrant flowers, which are blue, as in all but a few with white flowers.

Two genera of the Heath family, *Arbutus*, or *madroño* (pronounced *mathrone 'yo), and *Arctostaphylos*, or manzanita (manzanee 'ta), af-

truly remarks that the *madroño* should be the Irishman's favorite tree, upholding as it does the green above the red. But when it has hung out its fragrant delicate white blossoms, in March and April, its beauty can not be excelled.

The *madroño* and the *manzanitas* bear their blossoms in clusters, each individual blossom being partly or wholly pendent, or drooping, from a slender pedicel; and, while the shape varies with the species, the flowers of all, in form and texture, are much like tiny porcelain lamp-shades, the opening of the flower corresponding to the narrow part of the shade.

These two genera are closely related to the huckleberry and cranberry. The *madroño* bears very sweet berries about the size of cherries; and, while some botanists describe them as "scarcely eatable," I have found quite delicious ones. The wood is very hard and of a pretty color, susceptible of high polish, and fine for fancy work. *Madroño* is found as a tree from the Santa Cruz Mountains to British Columbia, and as a shrub along the higher parts of the Coast Range, where the rainfall is more plentiful, clear down to Mexico.

Manzanita, in Spanish, means "little apple;" but the berries of most of the species are bony and tasteless. The wood is similar to that of *madroño*, as are the flowers. Most of the species range from Monterey northward; but *A. tomentosa* is found as far south as Santa Barbara; and *A. pungens*, with slightly acid fruit, eaten by bears and Indians, abounds in all mountain regions throughout the State.

Bees work busily on all species. But as the various *manzanita* shrubs blossom in February and March, and the *madroño* in March and April, when bees are using most of what they gather in the rapid production of young bees, and when, in the regions where these plants thrive, rainy weather is very frequent, surplus honey is too rare from them to have acquired any market reputation. I have just sampled some (Feb. 27) that the bees have lately capped over in the brood-nest, recognizable by the fresh whiteness of the cappings on recently lengthened cells; and it is of a darker shade than sage honey, but without redness of tint, and has a mellow, pleasant flavor that many would like; but that would be less universally liked than sage, clover, or basswood honey. The trailing *Arct. uva ursi*, or bearberry, of



ford valuable bee pasturage in early spring. The former, in California, contains only *Arbutus Menziesii*, a relative of the strawberry-tree of other countries, and the *manzanitas* are found in about a dozen species in mountain regions. The *madroño* is a beautiful tree 80 to 100 feet high among the Coast Range Mountains of Northern California; but it dwindles to a shrub in the southern portions of the range. It presents a fine appearance at all seasons; with its long glossy leaves and smooth, reddish-brown trunk and branches. One writer

*The word "*madroño*" might be represented by the spelling *madhrn-yo*, sounding the *a* as in *ah*, and the *o* as in the word *old*. Spanish *d* is pronounced by pushing the tip of the tongue slightly against the upper teeth instead of the roof of the mouth just above the upper teeth, as we do in English; it is also accompanied by a slight trill when *r* follows it.—ED.

Nevada and the Eastern States, and *A. alpina*, found high up on the White Mountains; and from Katahdin northward, are the only eastern representatives.

Buckeye, or horse-chestnut, is represented here by one species, *Aesculus Californica*, found from San Luis Obispo Co., of Central California, to Mt. Shasta and the Oregon line. When black sage has gone out of bloom in May, buckeye is just ready to take its place; and an excellent extension of the honey harvest is thus afforded. The honey is inferior to that of sage, having an amber color and a flavor that, after reminding one of something familiar, seems finally to be suggestive slightly of cherry bark; yet it makes a palatable and very acceptable sweet where one can not get sage honey, and I have seen many kinds of honey not so good as this. In favorable seasons considerable harvests of it are obtained in the central coast region. It grows in sheltered localities on northern slopes of hills, mountains, and along the valleys, wherever it can find shaded and moist locations. Generally it is a dome-shaped shrub, 10 to 15 feet high; but in fertile stations it becomes a tree 30 to 40 feet high, branching very low, and often several feet in diameter near the ground. With its handsome leaves and large white flowers it has a cool refreshing look in summer; but it drops its leaves very early, and becomes a coarse-branched ungainly object till the following spring. Considering this species, I am led to wonder why I never hear of honey from *Aesculus glabra*, or fetid buckeye, of Ohio; *Ae. flava*, or sweet buckeye, of Virginia to Indiana, or *Ae. pavia*, or red buckeye, of Virginia, Kentucky, etc.

Poison oak, *Rhus diversiloba*, is much like poison ivy, *R. toxicodendron* of the East, except in size. In wooded places it climbs the tallest trees in much the same way and with the same appearance at a distance as the Virginia creeper; and on open hillsides, etc., it is a bush growing in thickets from 2 to 6 feet high. Bees work very freely on it in early summer. The species abounds everywhere in the State, and causes much inconvenience to those who are poisoned by it, causing an itching rash and swellings. Others can handle it without the slightest harm. I have never seen what I knew to be poison-oak honey; but I have seen bees upon it freely season after season.

Among the valleys and mountains of Santa Cruz Co., and northern Monterey Co., where the rainfall is plentiful, tarweeds and "tuccolo'te" are so abundant as to contaminate the honey with their strong flavors. I have seen tarweed honey that was fairly eatable. But I once cut a bee-tree at the base of the Santa Cruz Mountains, among fields rank with the later plant, which is a *Centaurea*, related to the dooryard "bachelor's button," but with yellow flowers,

and with the whole plant covered with spines, and presenting more the appearance of a thistle, which sometimes makes it almost impossible to bind grain by hand. The bee-tree was plentifully supplied with honey; but only a little of it was eatable, which, of course, was from other flowers. The most of it was of a greenish color, as if the green juice of leaves were mixed with it; and I would readily have believed that it would stop a chill and fever; for it had the taste of quinine. This bitterness of taste was so strong that all flavor of sweetness was completely disguised, and the taste clung in the mouth after eating—not long, like quinine, but still disagreeably.

Monterey, Cal., Feb. 28.

[These drawings were first submitted to friend Norton before being engraved, and were by him pronounced correct.—Ed.]



UNITING BEES IN SPRING NOT PROFITABLE.

Question.—I have fifty colonies of bees which are hardly half what they should be at this time of the year. What shall I do to get the most comb honey and also a little increase?

Answer.—Some years ago I should have said, "Unite these weak colonies at once." the same as nearly all the books will tell you; but after an experience of over twenty years I say, leave each colony in its own hive till June; for where two or more colonies are so weak that they will not live till summer, if left in their own hive without reinforcing, they will not live through till summer if united, no matter if as many as half a dozen such colonies are put together; at least, such has been my experience and that of all those who have tried the same thing and reported in the matter. Deciding that it is not best to unite weak colonies in early spring, what shall be done with them so we can secure comb honey from them? After trying every thing recommended in our different books and papers, and not being pleased with any, I finally worked out the following after much study and practice: All colonies which are considered too weak to do good business alone are looked over, when pollen comes in freely from elm and soft maple, and each shut on as many combs as they have brood in, by means of a nicely adjusted division-board, seeing that each has the necessary amount of honey in these combs, or within easy reach, to last them at least two weeks; for if we would have brood-rearing go on rapidly at this time of the year the bees must not feel poor in honey. Such weak colonies can send only a few bees to the field for stores, even when the flowers yield nectar, should there be early flowers in our locality which do so; hence if we would

make the most of our reduced colonies we must supply them with plenty of food. These colonies are to be kept shut up to these combs until they have filled them with brood clear down to the corners, before more combs are added; and in no case do we allow any more than one-half the number of combs used in our hives. As soon as the stronger of these have all the combs they can be allowed filled with brood, a frame having the most mature brood in is taken from them, and a comb quite well filled with honey set in its place, to stimulate them to greater activity and cause the queen to fill this comb immediately with eggs. If the honey is sealed, break the cappings of the cells by passing a knife flatwise over it, or by uncapping it with the honey-knife. The frame of mature brood is to be given to one of the next weaker of the weak colonies, or say one which lacks one frame of having the allowed number. Don't make the mistake which many do, of giving this frame of brood to one of the very weakest, hoping to get them ahead faster, for the weather has not yet become steadily warm enough so but that there is danger of losing the brood by chilling, as well as what brood these very weak colonies already have. By giving it to a colony nearly as strong as was the one from which it was taken, both are benefited, and both can furnish brood to another colony which was only a little weaker than the second, in a week or so. Thus we keep on working the brood from the very strongest down, step by step, as the bees advance and the season advances also, till by the time the weakest colony (one having, say, only two combs filled with brood by this time), can take brood enough, without danger of chilling, to make it of equal strength with all.

Having all with the allowed number of combs, we are now ready to unite, which should be done about two weeks before the honey harvest comes, that the best results may be obtained. To unite, go to No. 1 and look over the combs till you find the one the queen is on, when you will set it—queen, bees, and all—out of the hive, so as to make sure that you do not get the queen where you do not wish her, when you are to take the rest of the combs, bees and all, to hive No. 2, and, after spreading out the combs in this hive, set those brought from No. 1 in each alternate space made by spreading the combs in No. 2, and close the hive. In a week or so this colony will be ready for the sections; and if your experience is any thing like mine it will make a colony which will give as much comb honey as would the colony which you called your very best some years when your bees had wintered perfectly. In this way you will have half as many colonies in excellent condition to work in sections as you had weak colonies in the spring, and will secure a good yield of section honey; while, had you united them in early spring, or tried to work each one separately,

little if any surplus would be the result, according to my experience. You will probably have all the swarms from these colonies which you will desire, for increase; but should you not, the comb with brood, bees, and queen, which are to be put back into hive No. 1, together with an empty comb and one partly filled with honey, can be built up to a fair-sized colony for wintering, or two such colonies can be united in the fall.

WHICH QUEEN GOES WITH THE FIRST, OR PRIME, SWARM?

Question.—Will you kindly let me know in GLEANINGS which queen leaves the hive with the first swarm—the old or the young one? I have been asked several times, but I am unable to answer.

Answer.—Unless, for some reason, the old queen, or the one which has laid the eggs which produce the bees that accompany the swarm, has become lost or killed, this old queen is the one which *always* accompanies the first swarm. In case the old queen gets killed just before the swarming season, then the bees will raise other queens from the larvæ hatching from her eggs, in which case a young queen may go with the first swarm; but, as I once said, such a swarm can not be considered a prime swarm. After reading this, Dr. Miller asked in Stray Straws why such a swarm was not a prime swarm, but I think I have never answered. A "prime" any thing is something obtained from its kind when it is in its best or normal condition; and as a first swarm with a virgin or young queen is not sent out under normal or the best conditions, it can not be called a prime swarm. Is this correct, doctor? If not, why not? As a rule, ninety-nine out of every hundred first swarms are accompanied by the old, or laying queen.

[The late editions of the A B C of Bee Culture do not recommend uniting in the spring—see "Wintering," on page 336. The earlier editions did so, and some of the bee-books do recommend the practice as you state; but I believe it is generally admitted that uniting in the spring one or more weak colonies does little or no good. —Ed.]



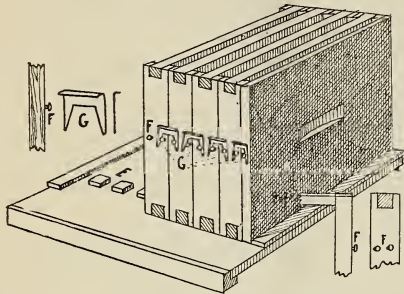
CLOSED-END FRAMES.

PIGG'S METHOD OF FASTENING.

By J. M. Pigg.

I notice in GLEANINGS for March 1st a plan of hive by Mr. E. H. Gabus. Prior to seeing this I had gotten up one to modify the Aspinwall hive, and I think it also modifies the Gabus hive, because the frames are the same size as the L., inside. The cover is the same

except being a little shorter. The bottom-board is the same as the old one, with the addition of the small blocks, E, put about $1\frac{1}{2}$ or 2 inches back from the end of the frame for it to rest on. The staples, G, are made of $\frac{3}{8}$ -in. x $1\frac{1}{4}$ -inch hoop iron, and can be made very cheap where one is prepared for it.



Well, it is not necessary for me to explain all the working parts and advantages of this hive, because the sketch I send you will explain itself.

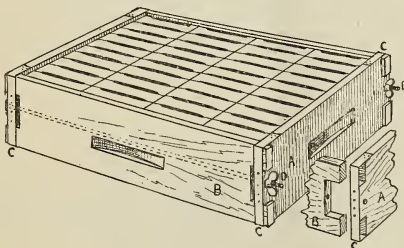
Shelbyville, Tex., March 10.

[I believe I should prefer Elwood's string (see page 178), because it would be cheaper and less work to handle.—Ed.]

SAWYER'S COMPRESSION SECTION-SUPER.

By T. R. Sawyer.

□ I thought I would venture to send you a rough drawing of my section-case. This case I got up seven years ago, and I have some 200 of them in use. You will notice one end of the case is adjustable, and by those thumb-screws you can move up the end to compress the holders, sections, etc., solid. The end can be moved



off from the inside, and also from the outside. I usually move the end off about $\frac{1}{4}$ or $\frac{3}{8}$ of an inch when I wish to examine the case to take out a bait section-holder or to see how far advanced the case is; but in warm weather, when the bee-glue is soft I separate the holders at any point with a screwdriver between two holders, giving a quarter turn that moves out the end of the case by a simple turn of the wrist. In filling the case with new sections, if the end strikes the joint, put in an extra sep-

arator at the opposite end. My section-frames and separators were made by Dr. Tinker, but the cases I made myself (as I am a mechanic). I have no machinery, but I got up an outfit to make them rapidly and correctly, so there was no fitting to be done when put together; and it is the best-working case that I have ever handled, in more ways than one; and the sections are as clean when taken out of the holders as though just out of the box; but, of course, it wants a form to take the sections out of the holders rapidly.

I have used for the last seven years almost altogether the white-poplar dovetailed open-side sections; and to work the open-side section satisfactorily they should be worked in a holder. It sometimes happens that bee-escapes are too slow, or too much work to put the escape-board on; and with open-side sections in holders we can brush the bees off a case in about no time. We use a nine-frame L. hive.

Muscatine, Ia., March 10.

[Our artist failed to get the drawing just right. The sections should be shown running the other way of the case. Compression, if applied at all, should be on the *edges* or *sides* of the sections, the object being to close up the spaces or interstices where the bees have a tendency to propolize; and then, too, the tightening-rods should run along *grooves* in the end-boards, and not *holes*. The latter would be all right, but it would be impracticable to bore them. There is no doubt that such a case will compress, but it is much more expensive than a solid super with a follower and wedge, such as are ordinarily used.—Ed.]

FLORIDA SINCE THE GREAT FREEZE OF 1895.

I must say a few words to our northern apiculturists through your columns. Florida, though disfigured, is still in the ring, and will stay there too. Here on the Indian River, in a few favored localities, are orange-trees that have borne a fair crop of fruit since the freeze of 1895; and those that were killed to the ground have since grown a small top, and are now putting on bloom, while our bees are now storing surplus, where colonies are strong, from pennyroyal; and weaker ones are building up to reap the rich harvest. The saw-palmetto promises to yield in May and June. All nature is alive and astir, for February, March, and April make our spring—the prettiest time of all the year in this latitude.

Grant, Fla., March 12.

L. K. SMITH.

HONEY IN ERYSIPELAS.

[We copy the following from the *American Homeopathist*.—Ed.]

Dr. Hayward, of Coopsey, Ill., calls attention to honey as a remedy for erysipelas. It is used locally by spreading on a suitable cloth and applying to the parts. The application is renewed every three or four hours. In all cases in which the remedy has been employed, entire relief from the pain followed immediately, and convalescence was brought about in three or four days.



THE condition of our bees, so far as wintering up to the present date, is about as good as it can be. Only two have been lost. We have in the yard at present 185 colonies.

PERHAPS some of our friends who are using the Boardman feeder with Mason jars have found that the jars themselves vary somewhat in size—not enough, however, to make any practical difference. As the tops of the jars are tapering, some jars will go a little deeper into the holes than others. But that will make no practical difficulty.

IN this issue we have started the symposium feature again—the subject of disposing of our honey. It will be noticed that some are in favor of peddling, and some are not, while Mr. C. F. Muth sets forth some of the troubles of the commission men. I shall be glad to receive more articles on the general subject of selling honey, to commission men and around home, or peddling or selling at the grocery.

A COUPLE of mistakes appear in the setting of No. 1 of the Washington grading, page 267. The first word, “unsoiled,” in the fourth line read originally “unsealed.” This was correct. The next word just below it, “unsealed,” was wrong. I knew it ought to be “unsoiled.” But what should I do but go and correct the wrong word, and therefore made both wrong! The grading of No. 1 should be as follows:

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

WE are running extra hours in nearly all of our departments. Even though our prices are a trifle higher than those of some of our competitors, the quality of our goods seems to count as an important factor with this year's business. The new foundation is taking like hot cakes. Had we not made great enlargements last fall and summer, nearly doubling our horsepower, and in other ways adding to our capacity, we should not this season have been able to take care of the trade; but as it is, we are just able to keep up nicely and take care of all orders promptly.

THE SOLAR WAX-EXTRACTOR INDISPENSABLE.

THE question is often asked how to render up dirty bad-smelling combs—those that often contain dead larvae; and as the question is asked so often, perhaps it would be well to give an answer right here.

To melt them in a wax-boiler on the stove

would scent the whole house up; and, moreover, it would be an exceedingly disagreeable and filthy job. But, fortunately, the solar wax-extractor comes to our relief. Such combs can be put into this machine outdoors; and if there is any odor at all it is not noticed. The black and dirty wax is not only melted, but bleached to a certain extent. A bee-keeper nowadays who can not afford to have a solar wax-extractor can hardly afford to have a smoker, I was going to say. Why! with the help of old Sol it will save enough the first year, practically, to pay for itself, to say nothing at all of what it will earn in subsequent years, and of its great convenience, the avoidance of foul odors in the house, and the annoyance to the good wife.

THE NORTH AMERICAN AT LINCOLN OR MINNEAPOLIS.

IN our last issue, commenting on the change of location proposed by Bro. York we expressed ourselves as in favor of it, *providing* the Nebraska bee-keepers would not object; but it seems some of them do object. Here is a sample:

Dear Mr. Root:—I notice from a late issue of the *American Bee Journal* that friend York advocates the removal of the next meeting from Lincoln, Neb., to Minneapolis, Minn. We believe that as good rates can be got to Lincoln as to any place on earth, and that the difference in hotel rates at Minneapolis during the G. A. R. reunion will more than overbalance any advantages that may be gotten at Minneapolis. We believe that the next meeting of the North American was located at Lincoln in good faith, and that its removal from Lincoln at this time should not for a moment be thought of, much less advocated. We believe that Lincoln can and will show the visitors to this meeting such a sample of true Nebraska hospitality as has not been witnessed, not even in Kentucky, and they will return feeling that, at least for the time, Lincoln (and, in fact, the whole State of Nebraska) was theirs. I trust that your influence will be extended toward keeping good faith with Lincoln; and then if they or we fail we shall be the responsible parties.

Friend, Neb., March 30.

E. WHITCOMB,

Pres. Nebraska Bee-keepers' Ass'n.

While we think it would be desirable to meet with the G. A. R., yet if the Nebraska bee-keepers are not willing we can not advocate the change. In the future it seems to me (i.e., E. R. R.) it would be better to leave time and place of meeting to the officers. If no promises are made the conventions can be held whenever and *wherever* special favoring conditions may suggest. Mr. Emerson T. Abbott also sent in a protest. In writing him I said we had indorsed the change of place conditionally upon the agreement of the Nebraska bee-keepers. Mr. Abbott replies:

My Dear Mr. Root:—I am with you for any point that will give us low rates all around, if the Nebraska friends are agreed. *Loyalty to them is the only thing I ask.*

There is one point, however, which we should not neglect, and that is to know about a hall, and also what rates we would have to pay for hotel accommodations. If we should be forced on account of the crowd to put up with such an outfit as we had at Chicago, I for one would prefer to pay a little more, and be royally entertained, as we are sure to be at Lincoln. A man can afford to pay out a few dollars just to see how these good people up in Nebraska do things. I thought I did very well at St. Joseph, but I will miss my guess if they do not lay our meeting in the shade. You see, I know them—I have partaken of their hospitality a time or two. St. Joseph, Mo., April 6. EMERSON T. ABBOTT.

Since the foregoing was written the following has appeared in the *American Bee Journal*, in answer to a similar letter in its columns from Mr. Whitcomb:

If Mr. W. will guarantee a one-and-one-third railroad rate to Lincoln for those attending the bee-keepers' convention, we will pitch right in and "whoop her up" for the Nebraska city. But we can not, as in former years, urge bee-keepers to attend, expecting to get the lower rate on the return trip, and then be disappointed. Some \$300 was lost to bee-keepers at Toronto last September, where we fully expected there would be over the necessary number to secure the reduced rate.

If the Executive Committee (who were given the deciding power at Toronto) say that the convention shall be held in Lincoln, all well and good. The *Bee Journal* will help to have a good meeting, no matter where it shall be. But it does seem to us that our Nebraska friends should be willing to sacrifice a little in order that the rest of the country may be enabled to take advantage of the assured low rate of *one cent a mile* (which the G. A. R. has already been granted for their meeting the first week in September, at St. Paul, Minn.), unless they can guarantee at least the one-and-one-third rate.

In regard to a hall, H. G. Acklin writes as follows:

The G. A. R. encampment meets here Sept. 1st to 5th, and the Minn. State Agricultural Society Aug. 31st to Sept. 5th. We called upon E. W. Randell, Secretary of the M. S. A. S., to see if the Institute Hall, on the Fairgrounds, could be secured for the N. A. B. K. A. if they should decide to meet here or at Minneapolis, with the G. A. R. Mr. Randell says the hall can be had for a two-days' session (evenings lighted free if desired), free of charge, but will submit the matter to the President, Ed. Weaver, before an invitation is given. General admission to the grounds is 50 cts., and season tickets \$2.00. It can be reached either from here or Minneapolis by electric car, for 5 cts. The admission is less than a hall of the same class can be rented for in either of the two cities, besides seeing the fair in the bargain, which I am sure most of the bee-keepers will be more or less interested in, especially those from this and adjoining States. If more than a two-days' session is wanted, a hall under the grand stand can be had. It is not so nice as the Institute Hall, but will do. Chairs will be provided by the M. S. A. Society.

St. Paul, Minn., April 9.

H. G. ACKLIN.

A. I. ROOT IN REGARD TO THE ABOVE MATTER.

When this matter of a change of place of meeting was first presented to me, I replied that, after the assurances given at St. Joseph, to the Nebraska people, I did not see how we could well make the change. I now notice that the Omaha and other papers of Nebraska are

making a vigorous protest. Here is an extract from the *Omaha World-Herald* of April 11:

When the convention was held at St. Joseph, Mo., in October, 1894, there was quite a little discussion in regard to the meeting-place for the year 1895. I made the official stenographic report for that body, and hand you herewith an extract from the proceedings copied from my shorthand notes:

The claims of Toronto were presented by Mr. Holtermann, of Brantford, Ont.; the claims of Lincoln, Neb., were presented by Mr. L. D. Stilson, of York, Neb.; the claims of Ottawa, Canada, were presented by Mr. Fletcher. Mr. Dadant, of Hamilton, Ill., and Dr. C. C. Miller, of Marengo, Ill., also urged that the next meeting be held in Toronto, in view of the great electrical exposition to be held there at the same time. Mr. Frank Benton, United States Department of Agriculture, presented, for Mr. Hershiser, the claims of Buffalo. The claims of Denver were also presented by the commercial representatives and by the mayor of that city, as also by Mr. W. L. Porter, of Denver. It was a hot race between Lincoln and Toronto; but the good-natured bee-keepers of Nebraska, not wishing to appear hogish, withdrew her claims in favor of Toronto, after exacting the promise that the annual convention for 1896 should be held at Lincoln. The city of Lincoln, Neb., was declared the meeting-place for the year 1896.

The board of directors at the meeting held at Toronto in 1895 declared the city of Lincoln, Neb., as being the place of the annual meeting of the North American Bee-keepers' Association, and I think it no more than right that the citizens of this city should do all in their power to have the convention of 1896 held there.

LOUIS R. LIGHTON.

I think the above is correct; and it seems to me it settles the question unless the Nebraska people freely and cordially consent to a change—at least, that is the way it looks to your humble servant A. I. R.

BUYING BEES AND PAYING HEAVY EXPRESS CHARGES.

In the *American Bee Journal*, page 199, the question is asked whether it is best to buy bees in the pound, nucleus, or colony form. Dr. Miller, in his reply, rather advises the first mentioned. I do not know that there are any breeders now who are selling bees by the pound without comb or brood. While for a time we seemed to have fair success, we found, in looking up the matter, we were losing too large a percentage, and we finally resorted to selling nuclei and colonies, and discontinued the pound business entirely. The nuclei invariably went through in good shape.

My way of answering would be this: Instead of sending a long way for bees by express, and paying a rate and a half, I would advise bee-keepers to buy near home. This can usually be done, and then introduce an Italian queen or queens later on, after transferring. Common bees can usually be bought of farmers very cheaply; and the start, to say nothing of the enthusiasm and experience in transferring and introducing, costs far less than sending clear across the country, and paying heavy express charges for just a few bees. If bees could be sent by mail it would be a different matter.

A. L., Ohio.—The bees will not build combs back of the plain division-board, illustrated and described in our catalog, unless honey is coming in pretty freely. In that case it should be shoved over, and more combs put in. Bees should never be allowed to become so crowded as to build combs back of the division-board.



Be kindly affectioned one to another with brotherly love; in honor preferring one another.—ROMANS 12:10.

Among the Kind Words in our last issue, page 283, there is one kind letter that lies heavily on my conscience—not because there is any thing unkind about it, or any thing out of the way at all with what the good brother said who wrote it, only it was a private letter, and was sent us for our encouragement. It was all right and appropriate as such; but we here—I guess I had better not say *we* after all, for I think it must have been I myself—A. I. Root, who decided to give it a place in print. Here is the kind word:

GLEANINGS is the only bee-paper that I am now taking. I have taken it ever since its advent, and don't expect to cut it off very soon. It is away ahead of all others, and the cheapest bee-literature published.

W. D. WRIGHT.

Altamont, N. Y., Jan. 6.

The first sentence would be all very well for publication, and the same with the next one. The words, however, where it says, "GLEANINGS is away ahead of all others," was certainly out of place in print, especially in our own journal. I know such things are customary, perhaps even in religious papers; but since I have professed to be a follower of Christ Jesus, things of this kind have always pained me like discordant music. It is hardly within the line of Christianity. I do not know that any one of my good friends who are editors of the other journals saw it or felt pained by it—I hope they didn't. But it has pained *me*, not only every time I saw it, but sometimes when I lay awake nights thinking of different things. Just at this point my stenographer informs me that not all of the kind words in that letter were allowed to go into print. Well, I am very glad if that is true; but I am sorry that the one who did the crossing-out did not cross out the last sentence. I am sure that both Ernest and John will heartily agree with me in this, although I have not talked with them about it. I know how customary it is in business for a business man to proclaim loudly that he is selling goods *cheaper* and of *better quality* than anybody else in the world. I have noticed seed catalogs, and advertisements of seedsmen, where they say, "Our seeds grow. Our seeds produce better crops and finer stuff than those sold by anybody else." Some of you may suggest that *perhaps* these statements are true, and it is always right to tell the truth. My friend, it is *not* always right to tell things everybody should be ashamed of, even if it is "the truth." The Bible says it is not. If you always tell all the truth, you will not be in line with the closing words of the beautiful text I have chosen—"In honor preferring one another." Suppose the editors of our several bee-journals were to meet together at some convention (God grant that they may thus meet again and again), and suppose they were to sit down side by side, like a lot of brothers. Why! the very thought of it fills me with enthusiasm. Now, while they are thus sitting together, and chatting, in a brotherly way, suppose somebody should say that he thinks GLEANINGS ahead of all others. I do not think anybody would say that—that is, if he knew he was in the presence of the editors of the different journals. If he did not know to whom he was speaking, we might excuse him; but even then I believe I should blush for shame. I do not *want* GLEANINGS to be "ahead of all others."

May be when I forget myself, some such foolish ambition crops out. If so, it is surely the prompting of the evil one. We want to make GLEANINGS as valuable as we possibly can, but never at the expense of crowding others down or out. May God help me to make this statement true so long as he shall permit me to live; and may he help me to rejoice in seeing the others grow and prosper—yes, to feel even *more* joy and pleasure in seeing them prosper than our own, for that would be in the line of our text—"In honor preferring one another." Dear friends, do you think that sort of spirit would spoil our own journal or our own business, whatever it may be? Why, nothing of the sort. It would be just the contrary. It is the broad, whole-souled, *generous* man who prospers and builds up a great business; and, better still than a great business, is the esteem and brotherly feeling that he builds up in the hearts of all men. When I get glimpses of the way these things come out when we have a Christlike spirit in our hearts, it brings back again and again that old text of mine, "O thou of little faith! wherefore didst thou doubt?" These were the words of Jesus to poor Peter when he began to sink in the water; and they fit the case exactly that is right before us. When a man begins to be afraid that it will not *do* for him to be fair and generous, and to love his neighbor as himself, then he straightway begins to sink down into the waters of selfishness and self-interests. May the dear Savior be always near at hand to reach down as he did to Peter and lift him up.

A great many times we get an idea that there is no room for all of us in the world. Dear brother, when you get to feeling that way, take the little text I have given you, commencing, "O ye of little faith!" If we all undertake to do one and the same thing, or if we try to copy after a neighbor who has been successful, there may not be room for all of us; but God did not intend us to *all* follow in one channel. Don't you see how different we are? Every one of our bee-journals has some characteristic of its own. If its editor is a good man he very soon strikes a field that has been comparatively neglected. God did not intend that we should all be alike. There should not be any better or best about it. Mind you, I am not criticising the friends who write me such kind words, for I happen to know that other editors get many similar kind words. Kind words are all right. However, it is not always in good taste to print all of them. I am afraid I have allowed others to go into print that were not intended for it, and should not have been printed. May God help me to be careful in this respect; and may I be enabled to hold that beautiful thought nearer to me—"In honor preferring one another."

Years ago there used to be *clashing* among the bee-journals. May God be praised for the fact that there is but very little of it now. In fact, some of the brethren have found fault with us, and called us a "mutual-admiration society." Yes, there have been several criticisms, to the effect that we as editors of bee-periodicals were too careful about any reflections on each other, and that our leading contributors are afraid to speak out the plain truth. I hope it is true that most of us are professing Christians, and that we have a Christian spirit toward each other, and, in fact, toward all men, whether we are really church-members or not. If you want to see exhibitions of acts and words that are unchristianlike, look over the class journals published now over almost all the world. Occasionally I hastily scan some of them. Sometimes I see page after page filled with quarrels and harsh words. Valuable space is taken up with something that does not teach

the industry at all which the class journal represents—yes, even teaching something that is evil instead of good. Our bee-journals have been kept remarkably free from things of this sort. Our *leading* journals especially, contain something good and valuable on every page and column. It is not always exactly in line with bee culture; but it is probably helpful to the people who subscribe for the journals.

Some years ago, at a State fair, in shaking hands with different bee-keepers I got into a crowd that was discussing bee-journals. Some of them were acquainted with GLEANINGS, and some were not. One man made a remark something like this:

"Well, gentlemen, when you get right down to it the old *American Bee Journal* contains about all there is that is really valuable in regard to bee-keeping. The others do not amount to much."

When he said it he gave me a glance that I understood. If I remember correctly, he and I had had some little differences in some former deal. Now, that was an unkind speech, even if it were true; and I think it must have troubled him some afterward, especially as I made no reply. A long time afterward, he asked me if I remembered it. I told him I did. He said he had often been sorry that he spoke as he did. I know how natural it is, in the rush of business, to try to get all the trade you can, especially in these times of sharp competition. A good many times we pay out money for advertising that does not seem to amount to much. It is getting to be now one of the fine arts to attract attention by an advertisement; but, dear friends, let us not forget that selfishness and greed do *not* pay in the end. The selfish, greedy forms of advertisements have been pretty well worked up. The ground has been gone over again and again. Once in a while we see an advertiser who has Christian spirit enough to say, even in his advertisements, "We do not want all the trade nor all the business; but we should like our share, and we should like to show you what we can accomplish in the way of things to help you along in your business." How I do like to see this spirit! Another thing, once in a while we find a man who does not promise very much in his advertisements and circulars; but when you send him an order he takes pains to show that he not only lives up to the very letter of his agreements, but that he does a little more. By the way, let me give you a little hint in the way of securing and holding trade. A good many commodities are constantly changing in value. You have got out your printed price list. Something happens that enables you to either buy or produce at a cheaper figure the article you sell. But the money comes according to the advertisement. It is perfectly fair and square for you to keep it; but you do not know how much good it does your customer to tell him that the goods have come down, and that you are enabled to place a few cents or dollars to his credit; or inclose some postage-stamps in your letter. See what thanks you get by such a method of doing business. Why, even our street-fakirs have got hold of this thing, and make capital out of it. A man stood on the street selling lead-pencils from a wagon. He said they were worth 10 cents apiece. He made drawings with one of them on some heavy cardboard, to show what a beautiful black mark the pencil would make. Then he pushed the slender point right through the cardboard, again and again, to show how strong the lead was. Then he played auctioneer, and asked what he could get for a whole dozen. After he had sold quite a lot of them at 40 cents a dozen he just won that whole crowd of people by giv-

ing back to each purchaser just half of his money. The idea that an auctioneer, after he had sold goods on honest bids, and got his money in *his pocket*, should then turn around and give back half of it! I suppose the fellow made a small profit at even 20 cents a dozen; but he broke the ice, as it were, got acquainted with his audience, and sold a great *wagonload* of goods before he left the spot. Now, this was a trick. We need not stoop to tricks; but we may make it a study to see if we can not make friends, and please our customers, every day of our lives, by unselfish acts. Fight down that greedy, selfish spirit that would prompt us to take every penny we can get hold of. Watch for chances where you can safely—that is, without loss—give a customer a little *more* than he expects or bargained for. Let us make his interest *our* interest. Let us "do good, and lend." If the man we lend to does not always return the things, or pay us back in other generous acts, the great Judge of all the earth will remember us, even if our neighbor does not; for he has said in his message to us that he will see to it that we shall receive in due time "good measure, pressed down, shaken together, and running over."



MULCHING FALL-SET STRAWBERRY-PLANTS; A NEW USE FOR THE NEW CRAIG POTATO.

I have several times spoken of the enormous amount of potato-tops produced by the Craig Seedling. No other potato that I have ever had any thing to do with comes anywhere near it. Last fall, when showing visitors through our grounds I would frequently take hold of a Craig top and raise it up to show them that, when stretched up, they are higher than my head; and then I would reach down under the vines where the ground was burst open, and pick out a potato weighing a couple of pounds, and hold it up. Well, after the frost killed the vines we let them lie until they were perfectly dry, for I am sure it pays the potato-grower to leave his late potatoes until every bit of green life has gone out of the stalk. The potatoes certainly increase in size and maturity so long as there is the least bit of life in the vines; but after the vines were all dead there was such a mass of the dry brush that it was a question what to do with it. There were simply *wagonloads* of the tops. As a patch of fall-set strawberries was near by, I directed the boys to place the dry tops nicely over the rows of plants. There were so many of them that I thought they had got the strawberries covered pretty thick, but I concluded to let them go. Well, at the present writing, April 2, the strawberries have done so nicely under the potato-tops, compared with those that were uncovered, that I am ready to declare I never want to winter another row of fall-set strawberries without protection of some kind; and I would use potato-tops every time if it is possible to get them. They are absolutely free from either seeds of weeds or grain; they lie up loose, so as not to smother the plants, and yet they catch and hold the snow, and prevent alternate freezing and thawing. This has been a more serious matter during the winter just past than I ever saw it in my life in any former season. Why! not only were my fall-set gooseberries, currants, etc., clear on top of the ground, but a good

many gooseberries that have borne crops for a couple of years were now clear out, with their roots in the air. Of course, we can dig a hole and plant them where they used to stand; but they have been greatly injured if not killed outright. Some kind of mulching would have saved all this; and I am more firmly determined than ever before that I will adopt Terry's plan with raspberries, blackberries, gooseberries, and currants, not only mulching the ground with straw or something else so as to keep down the weeds but to protect from frost, and just now I am better pleased with potato-tops than any thing else in the world; and as the Craig Seedling produces a greater amount of tops than any other potato, this will be one reason for planting them. I have never tried potato-vines as a mulch in fruiting time to keep the berries out of the dirt, but I am sure it will answer, and they will soon rot down, after picking, and make a valuable humus for the soil.

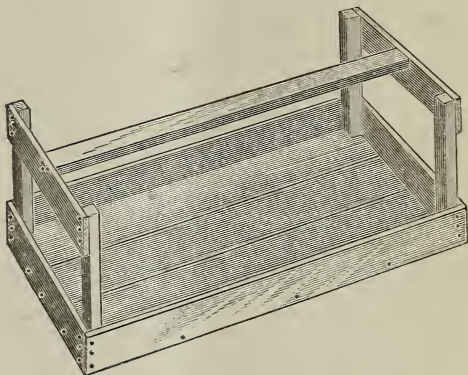
Now, lest you come to the conclusion that my decision may be influenced by the fact that the Craig potato is of *my introducing*, to offset the above I want to tell you some of its faults. First, it is a red potato, or on the reddish order. Second, it has very deep eyes. Third, it is not of the very *best* quality—that is, it is not equal to the Freeman and New Queen in the fall of the year; but for a winter and spring potato, especially the latter, it is almost equal to *any* for table use; and on our grounds it is certainly away ahead of every thing in that class of potatoes represented by the Rural New Yorker No. 2.

PREPARING SEED POTATOES FOR PLANTING; THE WAY THEY DO IT ON THE ISLAND OF JERSEY.

A single chapter from the pamphlet now in press, entitled, "*Potato Culture on the Island of Jersey*."

From the last potatoes harvested, the seed is saved. From an eighth to a tenth of the whole crop is thus reserved. Middle-sized tubers are selected, from two to three inches in length. These are set on end in shallow boxes, or trays—the eye, or seed end, up. The trays are made according to individual taste, usually of about the following dimensions: Of light $\frac{1}{2}$ or $\frac{3}{4}$ inch stuff; are 2 feet (or a little more) long, 1 foot wide, $2\frac{1}{2}$ inches deep, with a handle across the long way, about 6 inches above the bottom. They are so made that they can be stacked in piles, and meanwhile their contents be wholly exposed to light and air. The uprights and handles, etc., are necessarily stout. When the potatoes are on end in these trays they are wholly exposed to the light and air, and do not press upon or scarcely touch each other, and touch the trays only at the stem end. The trays, when filled (with about twenty pounds), are set in a light place, often in the sun, for a few days, but usually in an open shed, and are allowed to remain thus exposed till they become hardened by the light and air—often till they are tough and green; as the rule seems to be, the tougher the better. Later on they are set in stacks on the floor of the loft over the cow stable, or in the barn, where large windows admit plenty of light. The temperature is kept cool, and thus they remain till the day of planting. The trays are moved from time to time so that those beneath may be brought to the top; but the potatoes are not moved. The purpose of this curing process is to check the weak sprouts and to concentrate all the energy of the tuber into two or three strong shoots at the seed end. The result is, that each tuber at planting time has two or three sprouts of great strength at the tip of the seed end, instead of a dozen weak ones all over the surface. So deeply and strongly are these sprouts attached, that we have seen potatoes picked up and whirled about by them, as though they were the elastic of a toy ball. If there were a dozen sprouts from as many eyes, each would be weak and easily broken off, as is the case when potatoes are stored in heaps or in dark places. The toughening of the tuber by sun and air prevents the breaking-out of sprouts except at the right time and in the right number, and makes those that do break out intensely vigorous. Mr. Le Cornu, before quoted, said that seed thus prepared gains at least one

month of time in coming out of the ground and to maturity; and he adds that the preparation of the seed must be viewed as of primary importance; that is, together with the selection of a suitable and well-manured piece of ground, forms the only secret of success in the culture of the early potato.



STORING-TRAY FOR SEED POTATOES.

We shall have to explain to our readers, that, by mistake, the above engraving is made much too tall; for you will see by the description above that the tray is only $2\frac{1}{2}$ inches deep; the handle of the tray should come just high enough up to clear the potatoes. These trays may then be stacked one above another, as high as need be. Of course, the idea is to have them light and strong.

This placing of the seed in trays, and never touching with hand or shovel till the time of planting, is a great economy in labor, in handling and in sorting, and also in keeping the tubers unbruised and in perfect condition. There is now no diversity of opinion in Jersey as to the manner of curing the seed.

Potatoes for seed are now universally set on end, eyes up in shallow trays; are exposed to strong light and free air till tough in flesh, and are then stored in well-lighted lofts till the day of planting, when they are carried directly to the field and set in the drills. Out of this tough flesh, and through this leathery rind, burst a few strong shoots, and into them goes the energy of the whole tuber. This gives great gain in the time of growth, in the size and uniformity of the fruit, and in the immunity of the whole plant from disease, because of its vigor.

The impression, as one watches the planting of the potato-sets, is that of planting young trees—the sprouts are so vigorous, so well bunched at the tip of the tuber, and so carefully set in the drill. This process necessitates whole tubers for seed; and after every kind of experiment, the universal practice for many years has been to plant only whole seed. Now and then, where a farmer is compelled by lack of the middle sizes, he cuts very large tubers carefully into halves through the seed end, giving two sprouts to each half, but this is not a matter of choice. Seed potatoes are now and then brought in from England and France in order to keep up the size and vigor of the plant.

From thirty to forty bushels of seed per acre are planted—as much often put into the ground in seed as is taken out by the American farmer in crop. The Jersey farmer considers the Jersey mode of curing and keeping the seed-sets, as above described, the main secret of his success—but there is no patent on the process.

This arrangement will come in most beautifully this spring, on account of the low prices on almost all sorts of potatoes. Don't worry any more about keeping your potatoes in a cold cellar until time to plant. Put them in shallow trays, according to the directions given above, and store them where it is both light and warm, and let them sprout all they have a mind to. I may say this thing is not entirely new. I have raised potatoes more or less for many years, something this way, setting them out as I would cabbage-plants, after all danger of frost is over. The trouble was, I got them just right, only where they were picked off from

the *tops* of the potato-boxes; but these shallow trays do the business to perfection; and if you are engaged in the small-plant business, they are just the thing for plant-boxes. You can take them by the handles, one in each hand, and carry them out to the fields where you want your celery, cabbage-plants, or any other kind of plants. The idea of this tray for seed potatoes, plant-boxes, and other uses, is of itself worth a big lot. By the way, the berry-stands, composed of four shallow trays, may be used, I think, very well for sprouting seed potatoes, especially if you have some old trays too much soiled to be used longer for berries.

NEW POTATOES THAT ARE SIMILAR IN CHARACTER,
ETC.; SOMETHING FROM THE OHIO
EXPERIMENT STATION.

Mr. Root:—I see that, in your price list of potatoes, you state that the Experiment Station calls White Bliss Triumph the same as Salzer's Earliest. This is a mistake, as we had reference to the Red Bliss Triumph. Of course, we do not mean to say that Salzer's is not a seedling, but we have not been able to distinguish it from the other; and, so far as we can see, Stray Beauty is another name for the same thing. It often happens that potatoes are reproduced from seed, and the Ohio is a good example. No one can distinguish between Early Ohio, Ohio Jr., Everitt's Six Weeks, and Salzer's Six Weeks; and we have a seedling of exactly the same type. How many times the Early Rose has been reproduced, no one can tell. I suppose that, when the fact can be established that a variety is a seedling, it should be recognized as new, although it may have no distinctive merits.

W. J. GREEN.

Wooster, O., Apr. 4.

Friend Green, I really beg your pardon. It was my stupidity in saying that you pronounced the White Bliss Triumph the same as Salzer's Earliest. I overlooked the fact that a *white* Bliss has been recently produced from the red one: Your communication reveals a wonderful fact—at least it is new and wonderful to me; and that is, in the pursuit of new varieties of plants and vegetables the same thing may be brought out by different parties widely separated from each other. I know that you have pronounced the Early Ohio and the different Six Weeks potatoes as one and the same thing. But several have written me that it does not prove so in their experience. Now, both the Early Ohio and the Early Rose are old and worn out, if I may use the expression. Is it not possible that the same thing brought out *later* (say by raising potatoes from the seed-balls) will have more vitality and be a better yielder? T. B. Terry says the new Thoroughbred reminds him very much of the Early Rose when it first made its appearance. If one of these new seedlings has no merit at *all* over the old one which it resembles, it does not seem as though it should be pushed upon the public, just to confuse people; and herein is where you people at our experiment stations are going to help us.

WHOLE POTATOES FOR SEED.

I have never failed to obtain the largest yields from the use of whole tubers for seed, and I have made comparative tests every year for a long period. This is why I have never looked with even the least favor upon the idea of using single-eye pieces in planting. There are some growers who having the right (but unusual) conditions for it, claim great success from single-eye planting. I am sure, however, that the average grower, like myself, can do better by using larger seed-pieces. It is chiefly a question of cost of seed. The only valid objection that I have ever found to the use of whole potatoes (when these are in good condition for seed) is their cost. In many cases this objection will amount to very little this year. Potatoes are so cheap that all people can have a chance to try the virtues of heavy seeding.

The above, which I clip from the *Farm and*

Fireside, I can heartily indorse. Some years ago, when potatoes were a drug in the market, I had some very nice ones that I could neither sell nor give away. In a fit of desperation I planted them, making rows about three feet apart, putting a large whole potato every foot or fifteen inches in the row. I think I must have planted toward 40 bushels on an acre; but I was rewarded by getting toward 300 or 400 bushels. The only difficulty was that the enormous lot of tubers burst the ground open so as to let in the sun, making a good many of them green. This hurt them for table use, but it did not injure them for seed. The next year there was a scarcity, and I got about \$1 a bushel for every one of them. Now, do not throw your potatoes away because you can not sell them. Plant them on some good ground, as above, and they may bring a better price in the fall. By the way, when I want to raise potatoes very early I have always had better success with *whole potatoes* put in something as above.

THE RURAL NEW-YORKER NO. 2; ITS ADAPTABILITY
TO AVERAGE FARMING.

Friend Root:—Knowing the active interest you have always taken in gardening-topics, I must tell you how the Rural New-Yorker has, during the past dry season, proven to my satisfaction its iron-clad nature, and ability to withstand drouth.

During the month of June the rainfall was sufficient to mature a full crop of early-planted potatoes. Following my usual custom, my main crop planting was done very late in the season to take advantage of the fall rains, which last fall failed to materialize. Ohio, Queen of the Valley, and Rural, were all planted during the first week in June (a good two weeks *later* than the Rural should ever be planted in this latitude). Through June the surface soil remained moist; but in July and August the rainfall amounted to almost nothing at all. Considering that three years of continued drouth had left the subsoil as dry as powder, this was a critical period for the development of a crop; but it afforded the best possible opportunity for testing the hardiness of varieties.

Continuous shallow cultivation was practiced, using the smoothing-harrow until potatoes were up sufficiently to show the rows, when its place was taken by the one-horse cultivator, using five narrow shovels, with a piece of board attached back of the shovels to act as depth-regulator and leveler. The cultivation was kept up just as long as the tops would permit; after this the only attention given was to pull seed weeds wherever they appeared.

The Ohio suffered most from the start, and by the last of July there were spots on the lightest soil where they were all dead. August 15th they were ready to dig, having matured a crop of 65 bushels per acre of small potatoes.

Up to this time the luxuriant tops of the Queens and Rural New-Yorkers showed but little sign of the dearth of water. From now on, however, its effects became more and more apparent. At the close of each scorching day their drooping foliage told the story of consuming thirst. At this stage the extraordinarily heavy top and root growth of the Rural proved invaluable. The rank growth of tops covers the ground completely before much is done toward developing tubers, so shading the ground as to materially check evaporation, while the innumerable searching roots are wringing every drop of available moisture from the cool well-shaded soil. By early September the Queens were out of the race, giving a crop of a trifle over 100 bushels per acre of fairly large, though very rough, misshapen tubers.

Sept. 16 the Rurals, still thrifty and growing vigorously, were cut down by the frost. They were left in the ground until late in October, to allow of their ripening thoroughly.

From the ten acres, we dug 1700 bushels of perfect potatoes, remarkably free from blemishes of any kind, and practically all of marketable size. In an ordinary season I should consider 150 bushels per acre a light crop, considering the adverse conditions under which it was grown. I look on the comparative yields as a strong testimonial for the hardiness of the Rural. Not long since I asked a garden-

er of long experience his opinion of the Rural. He said that, though he had grown many varieties which, in a favorable season, would yield as heavily, he had found none that would stand "grief" as well as they. This quality makes them pre-eminently a potato for the farmer's garden, as the majority of farm gardens can offer the potato little but "grief" in the way of culture; and the ordinary varieties, when so treated, too often reward the farmer with *disappointment only*.

Through the Missouri River counties of Pottawatomie, Harrison, and Monona, the acreage of potatoes will be much increased this year.

FREDERICK M. CRANE.

River Sioux, Ia., March 25.

My experience agrees almost exactly with what you tell us, friend Crane. Farmers who have always thought they could not make it pay to raise potatoes, succeed almost invariably with the Rural; but on our ground the new Craig outstrips the Rural in almost every one of its iron-clad qualities. I am watching anxiously to see if it's going to succeed everywhere as the Rural does.

WHITE BLISS POTATO, AND ALL ABOUT IT.

The White Bliss grows to a good size for an extra early potato. I have often seen them weigh from 1 to 1½ lbs., possibly more. It is not unusual for our more eastern truckers to ship 80 to 100 bbls. per acre, spring crop, of them. It is the "roundest" potato I ever saw, and has red or pink blotches on it, and pink eyes. With us the potato-bug does not eat it as badly as other kinds. I have heard quite a number of our farmers mention this in favor of White Bliss. Hope you will especially notice this feature, and see if it holds good in Ohio. I presume you know the red Bliss Triumph is a seedling from Early Rose, fertilized with Peerless. It was certainly a happy nick.

T. B. PARKER.

Goldsboro, N. C., Mar. 28.

MINNESOTA FOR POTATOES, TURNIPS, ETC.]

I have a big potato yarn for A. I. Root. One of my neighbors, Mr. C. Cheely, a subscriber to GLEANINGS, raised 900 bushels of Burbanks and Beauty of Hebron potatoes on one acre, *without fertilizer* or without special cultivation—great potatoes you could carry in your arms like storewood; and our postmaster raised a single specimen Burbank weighing 6 lbs.; also 60 bushels of Freemans from one bushel planted. Just imagine a turnip weighing 25 lbs.

I am greatly in love with GLEANINGS. In fact, I always have been. I was pleased to see pictures of Lewis, Falconer, and Leahy. I have dealt with the G. B. Lewis Co. since coming to Minnesota.

Morrill, Minn., Mar. 7.

A. T. McKIBBEN.

Friend M., hadn't we better all sell out and go to Minnesota? By the way, however, almost everybody had big crops last season, and turnips, too, for that matter; but I do not think very many of us saw such a yield as you mention, nor potatoes and turnips of such size.

A SMALL GREENHOUSE IN CONNECTION WITH THE DWELLING.

I am intending to build a new house, and desire to have a small greenhouse in the southwest side of the kitchen, on the second flat. I should like to have your opinion in the matter of heating. I use a coal-range in winter. By attaching an ordinary water-front, the same as they use for heating water for sinks and bath-rooms, could I not run the water-pipes through the greenhouse and thus keep it warm? or would an ordinary water-front supply heat enough to keep the greenhouse warm enough? The greenhouse will face the southwest. Would it be practical to make a cement floor on top of the ordinary greenhouse floor, so that any drip from watering the plants would not be liable to soak through on to the ceiling below?

Stratford, Ont., Can.

JOHN MYERS.

Your plan is all right, friend M., and the arrangement you mention for heating will answer

nically if your greenhouse is not too large—say 10x15 feet. It might be 10x20 or 12x20, if your hot-water coil is of pretty good size. Both John and Ernest have a coil water-pipe set in their hot-air furnaces. These pipes are kept full of water by means of a rain-water cistern in the attic; but in both cases the apparatus furnished too much heat—the water would get to boiling. It depends upon the size of the heater you are going to put in your house. I suppose any practical plumber familiar with hot-water heating could advise you in regard to the size of pipe, number of coils, etc. I am afraid a cement floor would hardly be safe under the circumstances; and if much water is allowed to get on such a floor it will get through the cement to the wood, and make bad work. So far as my experience goes, any arrangement to hold water inside of a dwelling should have a metal bottom—zinc, galvanized iron, or sheet copper; then have an outlet always open, so if any large quantity of water is spilled, instead of soaking up the floor, ceilings, and carpet, it will run outdoors out of the way. The rain-water tanks in our attics are all placed in a shallow pan. Should the tank, by any accident, run over into the pan, the water goes out through an escape-pipe into the open air.

Health Notes.

A NUTRITIOUS HEALTH-FOOD.

Friend Root:—I am interested in your "Health Notes," and want to call your attention to some things which I have been forced to learn. I am very fond of oatmeal, and also of prepared wheat, but have had so much trouble with indigestion of the lower bowels that it was not safe for me to eat them until I made the discovery which I am about to relate. I tried "granola," but I did not like it very well. I also tried the "zwieback" fixed up as Mr. Ames suggests, but made up my mind some time ago that it was not the thing I was looking for. By the way, if it is well browned and then ground up, it makes a very good drink made like tea or coffee, and sweetened with honey, but it will not take the place of oatmeal with me.

I tried an experiment by mixing a good quality of prepared oats with Eli Pettijohn's best wheat. I mixed them half and half, but I now think one of oats and two of wheat will be better. I put them in a double roasting-pan, and put them in the oven of the stove, and let them brown slowly for several hours until they were an even brown all through. Care must be taken not to let any of the grains burn, as this will spoil it. When it is thoroughly browned and dry and crisp, I run it through my meat-cutter. The cutter should not be set too close, or it will clog up. This makes a fine dark flour. Out of this I make mush. The water should be *boiling* hot when the flour is stirred in: and when it is thick enough, set it on an asbestos mat and let it cook slowly for about thirty minutes. Sweeten with fine extracted honey—I prefer alfalfa—and serve with cream, and you have a dish good enough for a king. The best of all is, I can eat all I want of it, three times a day, and it never hurts me, and I do not think it will hurt any one. On the contrary, it will tend to make them fat and healthy. Try this and see if it does not beat your wheat as you prepare it. This is very cheap food, as I get the best of oats here for 5 cts. per package of two pounds, and the wheat costs only 10 cts. per package. Of course, I do not live on this, but mix it with other food which I have found healthy and nutritious for me.

St. Joseph, Mo., April 6.

EMERSON T. ABBOTT.

[Oatmeal is a strong food—too strong and irritating on the bowels for many. It is good in the case of those who do hard manual labor; but for persons of sedentary habits it should generally be avoided. In the proportion you use it and prepare it, it is probably all right.—Ed.]

Special Notices in the Line of Gardening, Etc.

By A. I. Root.

A POTATO NUMBER.

This issue of GLEANINGS, so far as my part is concerned, may be considered a sort of "potato issue." We thought best to give it all in advance of potato-planting. After this we propose to "let up" a little, at least on potatoes.

ALFALFA SEED—ADVANCE IN PRICE.

Just now the best we can do on alfalfa is \$7.00 per bushel; $\frac{1}{2}$ bushel, \$3.75; peck, \$2.00. In fact, the seed actually costs at wholesale more than we have been selling it for during the past winter.

SWEET CORN FOR FODDER.

In answer to several inquiries, we will, until sold out, furnish a good germinating variety of sweet corn, suitable for fodder, at the low price of \$1.25 per bushel. This is liable to be the same corn that is listed at almost twice that price. You see, if no variety is named it gives us the privilege of selecting whatever promises to be in surplus at the end of the planting season. It can be shipped either from here or from Chicago, at the price mentioned. This price includes bag for shipping.

THE NEW FORAGE-PLANTS, GRAINS, ETC.

So many questions have been asked in regard to cultivation, etc., of Essex rape, cow peas, Kaffir corn, crimson clover, alfalfa, soja bean, etc., that we have prepared slips to be mailed in answer to inquiries. The slips give the value of plants, localities where they will probably flourish, time of sowing, care of crop, etc. Each or all will be mailed free on application. These slips will be first given in GLEANINGS, and then kept on file to mail to inquirers when questions come up in regard to these plants.

COW PEAS—THE STOCK PEA OF THE SOUTH.

In answer to several inquiries we would say that these are not hardy, like our garden peas here in the North. They are rather more of a bean than a pea, and should be planted about the time beans are put in the ground. After they once get started, however, they are a wonderfully rank and luxuriant plant, producing an amount of foliage and vines that is absolutely astonishing. It depends somewhat on the season as to the amount of blossoms and beans they will produce here in the North, as they are liable to get caught by early frosts in the fall. As the seed is now advertised at such low prices, however, it is not at all expensive to have our friends a little further south raise the seed for us. As a green crop to plow under, the cow pea will often furnish a larger amount of green matter in a short time than almost any other plant. It should be remembered that it is also one of the plants that gather nitrogen from the air, like all of the clover family.

PREPAYING EXPRESS OR POSTAGE IN ORDER TO SAVE OUR CUSTOMERS TIME AND MONEY.

I wrote at length in regard to this in our last issue. Just now a customer down in Missouri sends for 4 lbs. of seeds that should go into the ground at once. He does not send any thing for postage, and does not say a word as to how we shall send them. They can be mailed for 36 cts. The express company will also carry them for that sum if the charges are paid in advance. If the express charges are allowed to follow, however, they will be 50 or 60 cents. You see, the express companies have made an arrangement to compete with the United States mails, providing they have their cash in advance, just as the postal department has cash in advance for stamps. This arrangement is only for seeds, etc. Now, we know nothing whatever of this man. Of course we can find out, or we can write to him and ask him how he wants his stuff sent, and remind him of the fact that he had omitted postage, if wanted by mail; but this will make a delay that will damage him more than the money saved. I suppose most seedsmen would let them go on and let him pay the double express charges at destination; but I do not feel right in doing this. Under the circumstances, nine out of ten would send us the postage, and thank us. But there is the tenth one, who will never answer or say a word after he has received his seeds, even if

we do explain that we have paid hard cash out of our own pockets to save him the money. It has sometimes seemed to me as though these people ought to have their names put in print when they refuse to remit postage or express charges that are paid simply to save them expense, loss, and delay. How is it, friends? Will it be best and right to print the names of people who are thus lacking in conscience? You see, by their acts they block the way that will enable us to save good people both time and money. We can not blame the express companies very much. If they are going to deliver seeds, etc., that are wanted right away, at about half the usual express charges, they certainly must have cash in hand in order to avoid loss.

HIGH-PRESSURE POTATO CULTURE—A NEW BOOK.

For some years I have had in mind the matter of growing potatoes in gardens or other high-priced ground, and managing so as to get them out extra early for city markets, and at the same time getting enormous yields on a small area of ground. Occasionally I have heard rumors of intensive agriculture and high-pressure gardening on the Island of Jersey, the Island of Guernsey, and other of the Channel Islands on the coast of France. Last fall I became acquainted with Rev. Charles D. Merrill, who, it seems, had visited the Island of Jersey, and was so impressed with some high-pressure methods, and the enormous crops of potatoes grown there on a small area of ground, that he wrote it up to be published in a book. The manuscript was submitted to me, and it was so much in line with my work, and gave so many facts from actual experience in growing potatoes in just the way I have indicated, that I bought the manuscript at once. Through press of business, the little book has been delayed, although I meant to have it out fully in time for potato-planting. The little pamphlet is to be a supplement to our potato-book, and will be incorporated in all that are sent out after this. It will be mailed free of charge to all who purchased one or more copies of the A B C of Potato Culture by T. B. Terry. To all others it will be mailed on receipt of 10 cents. It will contain 32 pages the size of the potato-book.

I may say, by way of brief summary, that on the Island of Jersey they manure their ground and work it up fine, away down 16 or 18 inches deep. After it is ready for the planting they do not permit a horse to step on the soft fine mellow soil; and they manage as far as possible to prevent even a big man from tramping the ground down hard. This agrees with my experience exactly. Instead of cutting potatoes to one eye, they plant them *whole*. See chapter on this subject, on another page. They use about thirty bushels of seed per acre. The business of growing early potatoes for the great London, Liverpool, and Manchester markets is reduced to a science. They get not only enormous yields per acre, but beautiful fine eating potatoes. Of course, the industry is quite a departure from the way we grow potatoes here in America in large fields; but, notwithstanding, you can see, when you come to read the book, that we have for years been growing toward their plans of working. My greenhouse experiments are right in line; and the trench system, so often described by the *Rural New-Yorker*, is also right in line. I hardly need tell you that the Island of Jersey is the birthplace and home of our Jersey cattle. The whole island is devoted almost entirely to Jersey cattle and potatoes. The land is so valuable that two or three acres are worth as much as 100 or more of farm lands here in America; and, stranger still, they grow *more stuff*, or, at least, stuff *worth* more, on two or three acres than many of our farmers do on a hundred-acre farm. If any of you have fond aspirations of making a living (say as you get along toward old age) from a couple of acres of ground rightly managed, this book will interest you more than any romance. The author is a minister of the gospel; and his enthusiasm and delight in seeing little patches of ground give forth their treasures is really contagious.

REDUCTION IN PRICE OF CRAIG POTATOES.

In putting our present price on the Craigs, \$2.50 per bushel, I was largely influenced by friend Craig, the originator. You know we generally accord to the originator of any new plant or potato the privilege of fixing the price for at least one or two years after its introduction. At the present time, however, our stock is hardly half sold out; and as friend Craig

can not ask us to hold up the price after this date, I have decided to offer them the rest of this season for just $\frac{1}{2}$ our regular list price. See table below. This will put them at only \$3.00 a barrel for the No. 1, and the very low price of \$1.50 a barrel for No. 2. To all who purchased Craig Seedling potatoes of us, either last fall, during winter, or this spring, and paid the full prices below, we will make a rebate, to be taken in Craig Seedlings or other potatoes, as you may choose. Please write us at once what you bought, and when; and if our records show your statement to be correct, we will at once give you credit as above. With our very strict and careful sorting, the No. 2 are almost as good to plant as the No. 1.

Season of maturing in order of table, the first named being the earliest.

NAME.	1 lb. by mail.	3 lbs. by mail.	$\frac{1}{2}$ peck.	Peck.	$\frac{1}{2}$ bushel.	Bushel.	Barrel—11 pk.
White Bliss Triumph...	\$ 20	\$ 50	\$ 50	\$ 90	\$ 150	\$ 250	\$ 6 00
"Second crop"...	15	35	20	35	60	1 00	2 50
Early Ohio	15	35	20	35	60	1 00	2 50
E. Thoro-bred, Maule's *	1 50	3 00	3 00	5 00	7 50	12 50	25 00
Burpee's Extra Early	15	35	20	35	60	1 00	2 50
Freeman	15	35	20	35	60	1 00	2 50
Lee's Favorite	15	35	20	35	60	1 00	2 50
New Queen	15	35	20	35	60	1 00	2 50
Monroe Seedling	12			20	30	50	1 25
Beauty of Hebron	12			15	20	35	1 00
State of Maine	12			15	20	35	1 00
Sir William	15	35	20	35	60	1 00	2 50
Rural New Yorker	12			20	30	50	1 25
Carman No. 1	15	35	20	35	60	1 00	2 50
Carman No. 3	40	1 00	40	75	1 25	2 00	4 50
Irish Daisy	12			20	35	60	1 50
Manum's Enormous	40	1 00	40	75	1 25	2 00	4 50
New Craig	20	50	50	90	1 50	2 50	6 00

Second size of Early Ohio, Lee's Favorite, New Craig, and Freemans (other kinds sold out) will be half above prices. Above prices include packages for shipping. Potatoes will be shipped at once soon as order is received, so long as our stock holds out.

REDUCTION ON OTHER POTATOES.

We also make the following deductions on other potatoes where we have surplus stock; namely, Early Ohio and New Queen, $\frac{1}{4}$ off from above prices; Monroe Seedling, 20 per cent off; making them an even \$1.00 per barrel; State of Maine, 20 per cent off, making them only 80 cents per barrel. All others will be at list prices.

REPORTS IN REGARD TO CRAIG POTATOES FROM DIFFERENT LOCALITIES.

The 1 lb. of Craig potatoes I bought of you yielded $\frac{1}{2}$ bushel, but quite a lot of small ones. They had a very poor chance, a pear-tree shading a part of them. SAM'L HEATH, Tidal, Pa., Oct. 19, 1896.

We planted half a peck of small Craig potatoes; and when we came to dig them this fall we had $\frac{1}{2}$ bushels of nice big ones. We like them on account of nice size and good flavor. SAVANNA, ILL., Sept. 24, 1895.

We bought 20 eyes of Craigs from Christian Weckesser, Niagara Falls, N. Y., in April last. They all started but one. We had 32 lbs. of good-sized potatoes. MRS. W. H. WESTCOTT, Falkirk, Ont., Can., Dec. 23, 1895.

The 1 lb. of Craigs I bought of you made 18 hills; but only about half of them started. I dug them a few days ago—no old whoppers; no small ones except in one hill. There was no sign of any scab on any of the Craigs. JACKSONVILLE, N. Y., Oct. 23, 1895.

I procured of you last spring half a peck of seed. I cut it to single eyes, making a row of 175 feet. There was a little more than three bushels, weighed from 19 ounces down; very few small ones; best potatoes I have. I shall plant all I have next year. S. W. SALISBURY, Independence, Mo., Oct. 30, 1895.

From thy pound of Craig potatoes I raised nearly one bushel. This season was the worst known for years. Blight struck them early, and some crops were ruined. The Craig grew profusely; very large vines, resisted blight best of any; in fact, they were green when all other varieties were dead. South Portsmouth, R. I. JACOB ALMY.

46 LBS. OF POTATOES FROM 2 LBS. PLANTED. The 2 lbs. of Craig potatoes were cut to one-eye pieces; vines very rank, but dead before frost. The yield was 45 lbs. of fine large potatoes, the best I raised this year. JOHN GEARHART, Princeton, Mo., Nov. 6, 1896.

*The entire crop is at present controlled by Wm. H. Maule. We are not at liberty to sell them for less than the prices he has put on them as above; but we will present a pound, postage prepaid, free of charge, to any present subscriber of GLEANINGS, for each new subscription he sends; we will also send GLEANINGS one year to every person who buys one-half peck of the potatoes. If you purchase one bushel you get GLEANINGS for eight years, either sent to yourself or to eight different persons, as you may choose.

†As we have still quite a supply of New Queens (all raised by T. B. Terry), we will meet prices from any responsible dealer on THESE until stock is closed out.—A. I. R.

AT THE RATE OF 120 LBS. FROM 1 LB. PLANTED.

The $\frac{1}{2}$ -lb. of Craig potatoes received from you was cut to single eyes, making 14, which were planted one in a hill, on moderately strong garden soil. I dug 30 lbs. of potatoes. I don't know much about how potatoes OUGHT to yield; but it strikes me that at the rate of 120 lbs. from 1 lb. planted is doing pretty well. They were nearly all of good size. D. B. THOMAS, Orlin, Mo., Oct. 28, 1895.

I planted about $\frac{1}{2}$ bushels of Craigs. The potatoes were cut to one eye, planted one piece in a hill, three feet check-rows, ordinary cultivation, no manure or fertilizer. There were at the rate of 300 bushels to the acre, and very few small potatoes. C. N. FLANSBERG, Leslie, Mich., Oct. 10, 1895.

STILL BETTER; AT THE RATE OF 232 LBS. FROM 1 LB. PLANTED.

The 6 ounces of Craig potatoes mentioned in GLEANINGS, page 752, produced 87 lbs.; the main plants, 45 lbs.; side-shoots, 42. The latter part of September was very dry, but the side-plants remained green until frost. G. J. YODER, Garden City, Mo., Nov. 15, 1896.

[Perhaps I may add that I am personally acquainted with Mr. Gideon Yoder, having visited his home. The method by which he accomplished this astonishing result will be found in GLEANINGS, page 752, 1895.—A. I. R.]

REPORT FROM E. C. GREEN, OF THE OHIO EXPERIMENT STATION.

I can say that we had no variety, out of 100, but showed signs of blight by the middle of August; and by Sept. 1st all were dead, or practically so. The Craig held out as long as any kind, but had to give up long before the frost. I think I am safe in saying that your Craig Seedlings, that have gone through the summer without blight (I saw them while at your place), are worth much more for seed than ours which have blighted, although we have some very fine Craigs notwithstanding the blight. E. C. GREEN, Wooster, Ohio, Oct. 7, 1895.

Tennessee Queens.

I will offer for sale in April and May tested Italian queens reared last year from 5-banded stock; good serviceable queens; also queens reared from imported stock, at \$1.00 each; 6 for \$5.00. Will have untested queens in May.

W. A. COMPTON, Lynnvile, Tenn.

Say!

Do you want regular old-fashioned A No. 1 Italian queens? We've got 'em at the Evergreen Apiary, Quebec, Tenn. Queens, 75c, \$1.00, and \$1.50; nuclei, \$1.75, \$2.25, and \$2.75. Big discount on quantities.

COOPER & GILLET.

MUTH'S HONEY-EXTRACTOR, SQUARE GLASS HONEY-JARS, ROOT'S GOODS AT ROOT'S PRICES.

Bee-keepers' Supplies in general, etc., etc. Send for our new catalog. "Practical Hints" will be mailed for 10c in stamps. Apply to

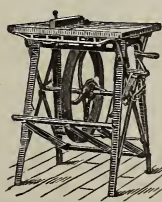
CHAS. F. MUTH & SON, Cincinnati, O.

Please mention this paper.

LARGE ILLUSTRATED CATALOG FREE.

It contains instructions, and descriptions of a full line of Bee-keepers' Supplies made by the A. I. Root Co. Send list of goods wanted and get prices. Beeswax made up, bought, or taken in exchange.

M. H. HUNT, Bell Branch, Mich.



Read what J. I. PARENT, of Charlton, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes, and a great deal of other work. This winter we have doubled the amount of bee-hives, etc., to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free.

Address W. F. & JOHN BARNES, 545 Ruby Street, Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to THE A. I. ROOT CO., Medina, O.



LOWER PRICES FOR BEESWAX.

Owing to decline in the market price of beeswax we will pay from this date, till further notice, only 25c cash, 28c trade, for average wax delivered here, instead of former prices.

COMB-FOUNDATION MACHINES.

Since the last edition was mailed we have sold both of the second-hand ten-inch foundation-machines there offered. We still have the 6-inch, also the old stock of new ones offered at special prices. We have taken in a second-hand 10-inch Pelham, which is in good order, a good machine for a Pelham. This we offer for \$8.00.

HONEY MARKET.

We are entirely sold out of comb honey, and could place more if we knew where to get it at the right price. Dealers seem unwilling to pay any more than they have been paying in order to get it, preferring to let the trade go without. We have a good supply of extracted, as listed in last issue, and shall be pleased to hear from those in need.

CREAM SECTIONS.

We are unable for the present to furnish any more cream sections 1½ wide from stock here. We have over a million of the No. 1 white of this width in stock; and during this month we have been and shall be making other widths on orders. The cream, or No. 2, are the seconds accumulated while we are making the best grade; it follows, therefore, that we shall not have any more cream 1½ wide to furnish this month, and we are not likely to have many more this season. The No. 1 white cost so little more, and are so much nicer, that we hardly see what object any one can have in ordering the creams. We have of other widths than 1½ the following lot of cream sections which we offer at \$2.00 per 1000: 5000, \$9.00; 15M 4¼x1½ or 1¾, full, 2 openings; 20M 4¼x1½, 4 openings; 35M 4¼x1½, 2 openings; 10M 4¼x7-to-foot. We have also some 50M of 4¼x1½ white sections which we offer at the same price.

SEED POTATOES FROM NEW SOUTH WALES.

We have just received from Mr. Herbert J. Rumsey (the man who sent us the Tonga bean) a pint of seed potatoes by mail, in perfect condition for planting; in fact, they have just begun to sprout a little. They were on the way 30 days. This fact may be valuable to those who wish to send seed potatoes to distant points. It is much better to send whole potatoes, small size, than to attempt to send eyes only. The names of the potatoes sent are Gardner's Imperial Blue and Richter's Imperial.

THE TONGAN BEAN.

Through the kindness of Mr. H. R. Rumsey, of Boronia, New South Wales, we have received about half a pint of these curious, odd-looking beans. See description on page 119. There are 464 beans, and they cost us \$2.00; and while the supply lasts we will mail three beans to anybody who sends us 5 cents in stamps or otherwise. They are especially suited for tropical countries, where one single bush or vine will yield several bushels of edible beans in a season. The bean itself is worth something as a curiosity, as it is totally unlike any thing else in the whole bean family.

VEGETABLE-PLANTS FOR APRIL 15.

We have a splendid lot of twice-transplanted Jersey Wakefield; also a nice lot of the same and Early Summer once transplanted. A fine lot of cauliflower, once and twice transplanted; Prizetaker onion-plants—a nice lot that will be ready in about ten days; and the finest lot of tomato-plants I think we ever grew. We have the Beauty, Ignotum, Dwarf Champion, and Fordhook Early. We regard the latter as the best early tomato we have ever tested, and prices are this year the same as the others, viz., 100, 75 cts.; \$6.00 per 1000.

We have also a beautiful stock of nice White Plume and Self-blanching celery-plants.

We can not sell good strawberry-plants at the prices many advertisers are offering them.

Now is the time to get the Gault raspberry plants. Ours wintered in splendid shape, because they were heavily mulched with old straw manure. They are just right now to be sent out. By mail, postpaid, 25 cts. each.

ADVANCE IN THE PRICE OF WHITE DUTCH CLOVER.

This, by the single pound, will be 25 cts. instead of 20; postpaid by mail, 35 cts., instead of 30, as heretofore. Prices by the peck, half-bushel, and bushel, will be as given in the price list.

THE BEE-KEEPERS' ARMENIAN FUND.

CONTRIBUTIONS up to date are as follows:

Amount previously acknowledged	\$48 00
H. G. Collins, Ulysses, Pa.	1 00
Ruth B. Wright, Medina, O.	1 00
Leahy Beachy, Aurora, W. Va.	2 56
Y. P. C. U., Beauford, Minn.	2 00
R. A. Huntington, Linden, N. Y.	1 00
S. C. Frederick, Elberton, Wash.	41
B. D. C., Wilton, N. H.	1 00

\$56 97

As we go to press we receive the following:

Boston, April 10, 1896.

The American Board of Commissioners for Foreign Missions acknowledges the receipt of fifty-five dollars and fifty-six cents from subscribers to GLEANINGS IN BEE CULTURE, Medina, Ohio.

FRANK H. WIGGIN, Ass't Treas.

CONVENTION NOTICES.

The Northern Illinois Bee-keepers' Association will meet at the residence of Mr. O. J. Cummings, in Guilford, three miles northeast of Rockford, Ill., on Tuesday, May 19. All interested in bees are invited. B. K. NEDDY, Sec., New Milford, Ill.

The illness of the President, Mr. M. H. Hunt, and of the Secretary's daughter (Ivy Hutchinson), has delayed the holding of the Michigan State Convention. It is now decided to hold it at one of the hotels in Lansing, April 23 and 24, the first session to be held on the evening of the 23d. I have written to J. H. Larabee to make the arrangements. If I do not hear from him in time to give further notice in these columns as to which hotel, the place can be easily found by inquiring at the different hotels. I presume it will be at the Hudson House. Dr. L. C. Whiting, of East Saginaw, will have a paper entitled, "Bee-keepers must Follow the Wild Flowers." Hon. Geo. E. Hilton will take for his topic, "The Crisis in Michigan Bee-keeping." Mr. L. A. Spinwall will have for his topic, "Requisites for Success in Bee-keeping." The subject of the Hon. R. L. Taylor's paper will be, "Lessons in Wintering." Mr. T. F. Bingham has also promised a paper, he to choose his own topic. Mr. Heddon is just home from a sojourn in Florida, and can probably tell us something about that land of sunshine and flowers.

W. Z. HUTCHINSON, Sec.

KIND WORDS FROM OUR CUSTOMERS.

The 50-cent knife is just O. K.—as good as I could get here for \$1.00. S. C. FREDERICK.
Elberton, Wash., March 28.

Inclosed find cash, for which you will please give me credit. The goods came in due time, and are all right. The Crane smoker is superb. Accept thanks for services rendered. L. F. NEYLAND.
Berwick, Miss., Mar. 28.

BURPEE'S EXTRA EARLY POTATO.
I have tried them for 5 or 6 years, and they do splendidly for me. J. H. MOORE.
Elmwood, Ill., Apr. 4.

I am well pleased with my investment in bees. I have spent with you this year \$37.60, and I have got the worth of my money. I can not express my feelings of gratitude to you. I will always recommend The A. I. Root Co. J. S. MORRIS.
Lynchburgh, Va., Apr. 2.

The way you fill out a seed-bill is truly a surprise. This gives more seed than I had calculated on. As I figured on the usual amount sent in a packet; but many thanks to you. I will let some of the neighbors have a chance at you. F. S. CLARK.
Hastings, Ill., March 17.